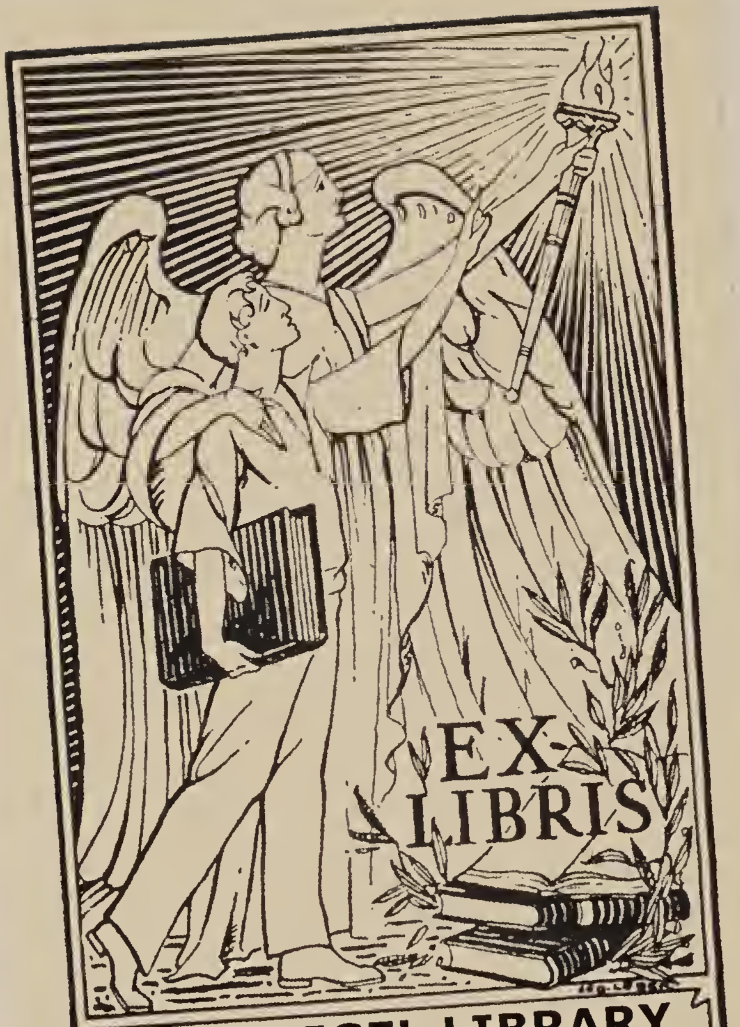

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GEORGIA ACADEMY FOR THE BLIND

Orientation and Mobility Curriculum

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CONTRIBUTORS

Concept Development	- Sue Ervin Mendiburo - Orientation and Mobility Techniques A Guide for the Practitioner by Everett Hill and Purvis Ponder
Protective Technique	- "
Sighted Guide	- "
Indoor Orientation Skills	- "
Special Skills (Indoors)	- "
Cane Skills	- "
Outdoor Orientation Skills	- "
Special Skills (Outdoors)	- "
Residential Travel	- "
Commercial Travel	- "
Primary Community Facilities and Special Aids	- "
Orientation and Mobility Terms	- "
Pictures	- Handbook for Teachers of the Visually Handicapped by Grace D. Napier, David L. Kappan, Dean W. Tattle
Electronic Aids	- Wormald International Sensory Aids Bensenville, Illinois
Guide Dog Schools	- Seeing Eye Morristown, New Jersey Leader Dogs for the Blind Rochester, Michigan Guide Dog Foundation for the Blind, Inc. Forest Hills, New York Guiding Eyes for the Blind, Inc. Yorktown Heights, New York

CHAPTER ONE

INTRODUCTION AND INITIAL FORMS

INTRODUCTION AND INITIAL FORMS

Visually handicapped students vary markedly in their range of abilities due to the following: physical condition, emotional factors, environment, and different levels of previous training (depending on the actual needs of a particular student.)

Students must demonstrate a satisfactory degree of competence in certain concept areas before beginning formal mobility instruction. Ideally, these concepts and skills are learned in a developmental sequence during early years. They are taught and reinforced by parents, teachers, and peers as well as by professional instructors of the visually handicapped.

Specific programs of remediation will need to be planned and implemented for children who lack the necessary background in the following areas:

Body Image - the child must have an accurate idea of his/her body parts, size, function, and relationships.

Body Movement - the child should move as smoothly and gracefully as possible. His/her pattern of walking should approximate what is generally considered an acceptable gait.

Spatial Relationships - it is important that a child learn to understand and make judgments about objects in his/her environment. Accurate concepts of space and space relationships are prerequisite to all travel.

Posture and Gait - overall body alignment and correct posture is necessary for efficient travel. This has direct correlation to body movement and gait. The child's general body condition is reflected in his/her movement and gait. In some cases, efforts to improve general physical condition are essential.

Travel Concepts - basic developmental concepts contribute to the growth of adequate travel concepts in children. These are learned indirectly and through direct exposure to formal mobility instruction.

Throughout this curriculum guide some prerequisite concepts and skills have been noted. If the student has prior knowledge and understanding of these prerequisites, the proceeding technique may be performed efficiently.

Becoming proficient in orientation, self-protection, sighted guide, indoor and outdoor cane skills, residential travel, commercial travel, mall travel, public transportation travel, and in some cases even electronic aids travel, is the responsibility of the orientation and mobility instructor. The ultimate goal of orientation and mobility, then, is to enable the student to enter any environment, familiar or unfamiliar, and to function safely, efficiently, gracefully, and independently by utilizing a combination of these skills.

I. Orientation and Mobility Screening Report

Student
D.O.B.
School Division
Eye Condition
Other Impairment
Prior O & M Training

Date
Orientation & Mobility Specialist
Grade

A. Visual Functioning

1. Object Identification
2. Depth Perception
3. Scanning
4. Tracking
5. Illumination (preference/problems)
6. Color
7. Contrast
8. Functioning at near point
9. Optical aids
10. Field
11. Use of vision

B. Sensory Awareness

1. Auditory
2. Tactual
3. Olfactory

C. Cognitive Development

1. Body Image
2. Laterality
3. Directionality
4. Spatial Relationships

   5. Physical Concepts

D. Gross Motor Skills

   1. Gait-posture

   2. Balance

   3. Coordination

E. Travel Skills

   1. Indoor (familiar/unfamiliar)

   2. Outdoor (familiar/unfamiliar)

   3. Following Directions

   4. Organization of environment

   5. Confidence/quality of movement

F. Formal O & M Technique

G. Perceived Needs

H. Summary and Conclusions

I. Recommendations

II. Orientation and Mobility Initial Interview

Student ____________________ Date __________

Parents ____________________ Instructor __________

Home Address ____________________ Telephone __________

____

Age __________ Grade Level ____________________

A. Medical History: (as stated by client)

Sex ______

Height ____

Weight ____

Present Health: Excellent ______ Fair ______

Poor ______

Recent Major Illness: ____________________

Chronic Conditions: ____________________

Medication: yes ____ no ____ What Kind __________

____________________ What for __________

Side Effects: ____________________

B. Visual Implications:

Age of onset: ____________________

Etiology: ____________________

Visual Acuity: O.D. ______ O.S. ______ O.U. ______

Does client have useful vision: yes ______ no ______

If yes, state functional use: ____________________

Day Vision: ____________________

Night Vision: ____________________

Prognosis: (as stated by client) ______________________

(as obtained from medical) __________________

______________________________ ____________________

Does client have hearing difficulty: yes ____ no ____

If yes, explain: ____________________________________

____

C. Interests, activities, or hobbies: ______________________

____

D. Future plans and goals: ____________________________

____

E. Mobility History

Most frequent modes of travel: ________________________

____

Previous O & M training: yes ____ no ____ Where ______

When ____________________ How long _________________

Type of training: ____________________________________

____

Previous travel experience without training: _____________

____

Describe your neighborhood: ___________________________

____

____

Does it have sidewalks? yes ____ no ____

Does it have paved streets? yes ____ no ____

Are there any light controlled intersections? yes ____
no ____

Is there a city bus stop near your house? ________________

How far? ____

Do you have any particular problems when traveling alone? ____

____

Do you feel that you need Orientation and Mobility training?

Yes ______ No ______

What do you feel are your needs in this area of instruction?

____

____

Do you plan to return to your present home? yes ___ no ____

Do you ever travel in a metropolitan area? yes ____ no ____

where? __________________________ how often? ________________

F. Interviewer's comments and mannerisms noted: ________________

____

____

____

____

____

G. Recommendations: ____

____

____

____

III. Prescription Form

Student's Name ____

Date ______________________

Instructor ____

Results of Evaluations:

A. Concept Evaluation -

B. Low Vision Evaluation -

C. Posture Evaluation -

D. Present Mobility Skills Evaluation -

Prescriptions:

This student therefore needs instruction in the following areas:

Goals:

IV. Individual Student Record

Instructor ______________________________

Student ________________
Date of Birth ______________
Vision ____________________
Grade Level Enrolled _______

UNIT SKILLS

Grade Level	Quarter	Low Vision Utilization	Posture Development	Concept Development	Self-Protective Technique	Sighted Guide	Indoor Orientation Skills	Indoor Special Skills	Cane Skills	Outdoor Orientation Skills	Outdoor Special Skills	Residential Travel	Commercial Travel	Primary Community Facilities	Special Travel Aids
12th	S														
	W														
	F														
11th	S														
	W														
	F														
10th	S														
	W														
	F														
9th	S														
	W														
	F														
8th	S														
	W														
	F														
7th	S														
	W														
	F														
6th	S														
	W														
	F														
5th	S														
	W														
	F														
4th	S														
	W														
	F														
Pre-Voc II	S														
	W														
	F														
Pre-Voc I	S														
	W														
	F														
ECE_4	Spring														
	Winter														
	Fall														
ECE_3	Spring														
	Winter														
	Fall														
ECE_2	Spring														
	Winter														
	Fall														
ECE_1	Spring														
	Winter														
	Fall														

Mark with: ✓ Blue - receiving instruction
✓ Red - unit skill not completed
(✓) Black - successful completion

CHAPTER TWO

LOW VISION UTILIZATION

LOW VISION UTILIZATION

Introduction

It has been demonstrated by several of the low vision students at the Georgia Academy for the Blind that they do not use their residual vision. In order to assess these student's abilities, a low vision evaluation checklist is given to them. If they pass it with no apparent further need for mobility, then they are not included in the mobility program. If, however, they do appear to need further mobility training, then a more extensive evaluation is done to further assess their strong and weak points. These pre and post evaluation checks should be kept individually on each student to show the progress made after further training.

Some low vision students have good use of their vision during daylight hours, but then at night due to a form of night blindness; their functional vision is reduced. These students too, upon request, or by referral can receive night travel training. Other low vision students who lack experience in traveling at night and request it can also take night travel training.

Included in this unit on low vision is also a list of activities that can be helpful in developing one's use of residual vision. Many of these activities can be performed both on an individual or group basis.

I. Indoor Low Vision Evaluation Lesson

Indoor Procedures

A. In mobility office with back against closed door, lights on, ask individual to do the following:

1. Identify large items in the room.
2. Identify small items in the room.
3. Identify colors in the room.
4. Estimate the size of the room.
5. Describe the entire room or specific areas of the room.
6. Walk to and pick up objects within the room.
7. Point to named objects within the room.
8. Identify shapes of objects in the room.
9. Identify textures of objects in the room.
10. Point to signs in the room.
11. Read large print on the signs in the room.

B. In main corridor outside conference room have student repeat the tasks in A above.

C. Walking from one end of corridor to other having student describe what he/she sees ahead.

1. Doorways? How many?
2. Narrow to wide hallway?
3. Intersecting hallway?
4. Approximate distance to end of hallway?
5. Contrasting colors?
6. Carpet to tile or wood - visual recognition?
7. Stairs located visually?
8. Chairs and benches located visually?

D. General observations about individual ability, safety, and potential indoors.

Indoor Procedures - LEE'S SUPERMARKET

A. The objectives of this Low Vision Evaluation are varied in order to get a realistic idea of how the student travels using all remaining vision.

1. To determine if the student can read print on common items found in the grocery store.

2. To determine if the student can visually recognize various colors, shapes, and sizes.

3. To determine if the student can recognize the texture of an object visually, and also if he can discriminate between textures.

4. To determine if the student can discriminate between brands, and pick out his/her brand of different items.

5. To determine if the student has enough vision to safely and efficiently make purchases on his/her own.

6. To determine if the student needs to be using a cane or other travel aid.

7. To determine if the student can visually discriminate between bills and coins - if not, then to determine if the student is aware of how to fold bills in order to keep them straight.

8. To determine if the student has the proper social skills for making independent shopping trips.

9. To determine if the student could benefit from further mobility training.

B. Procedures for Evaluations

1. The student should be allowed a few minutes after coming in from the outdoors, in order to adjust to the lighting. Any difficulty in adjusting to the lighting should be noted by the mobility instructor.

2. The student should then be taken (sighted guide if necessary) to the first aisle and allowed to begin to look around at the various items in the aisle.

3. The questions that the mobility instructor should be asking the student are such things as: "What shape is the container?" etc.

4. At this point, if the student has been having difficulty recognizing the item visually, let him/her feel the item and determine if he/she can tactually recognize it.

5. When the student reads any print on an item be sure to note whether he/she reads it letter by letter or if he/she reads whole words at a time. Also take note of the approximate distance that he/she is from the object when reading the print.

C. Locating Items and Specific Brands

1. After having given the student sufficient time to demonstrate the ability to see items, ask student to locate the section of the store where the following items are: shampoo, deodorant, toothpaste, soap, etc.

2. Observe how the student finds these items: watch for such things as soliciting aid; reading signs above the counter; looking for specific shapes, colors, or print on the items themselves, etc.

3. Next have the student locate his/her brand of each of the above mentioned items and note how the student looks for them.

D. Making a Purchase

1. Pick out an item such as a coke and ask the student to purchase one for himself.

2. Give the student the largest bill possible, such as a ten.

3. After he/she has purchased the coke, ask him/her to count the change. Note whether he/she does it visually or tactually.

4. Note also if the student could read the number on the bill.

II. Indoor Low Vision Checksheet

(Grocery Store)

A. Illumination Bright _____ Average_____ Dim _____

B. Color Perception Good _____ Fair _____ Poor _____

C. Ability to read print Good _____ Fair _____ Poor _____

D. Distance necessary for reading print ____________________

E. Approximate size of print read ______________________________

F. Reads whole words Yes _____ No _____

G. Reads letter by letter Yes _____ No _____

H. Has trouble reading different colors of print Yes _____ No _____

I. Has trouble reading print on round items Yes _____ No _____

J. Texture Discrimination Good _____ Fair _____ Poor _____

K. Shape Discrimination Good _____ Fair _____ Poor _____

L. Knowledge about different brands of items Good _____ Bad _____

M. Ability to solicit aid Good _____ Fair _____ Poor _____

N. Social skills appeared Good _____ Fair _____ Poor _____

O. Ability to discriminate between bills and coins Good _____
Fair _____ Poor _____

P. Ability to read numbers of bills Yes _____ No _____

Q. Ability to count change Yes _____ No _____

R. Was the student at ease making the purchase? Yes _____ No _____

S. Ability to travel safely Yes _____ No _____

T. Need for use of a cane or travel aid Yes _____ No _____

U. Could this student benefit from more mobility training? Yes _____
No _____

COMMENTS:

III. Outdoor Low Vision Evaluation Lesson

Often low vision students will not have a functional understanding of compass directions. This will affect the method in which travel directions are given. Use terms such as right and left, and also give the route in smaller segments. Do note if compass directions cannot be used for future lessons on orientation skills.

Low vision students often are affected by degrees of brightness of sunlight. Most function best on an overcast day with no direct sunlight (cloud coverage blocking sunlight). To have a thorough evaluation, the student needs to be exposed to a variety of sunlight conditions. A night evaluation also is needed to complete evaluation of residual vision.

Outdoor Procedures(Utilizing Actual Streets in Macon, Georgia)

A. Start route on northwest corner of Courtland and Cherokee facing Cherokee.

1. Ask student to point toward sun? directionality? ____________
2. Ask student to point toward street(s) nearby? ________________
3. Additional observations:

B. Turn west walk along Cherokee to Hillyer.

1. Ask student what is house number of house on right side? _____
2. Let student get as close to house number as needed to read number. Make note of distance from number read. ______________________
3. At a driveway ask student what is the path leading to street? Note if incline causes balance problems. _____________________

   ____
4. Additional observations:

C. Cross Hillyer and continue walking west until student gets to Crescent.

1. After crossing Hillyer, note if student has a problem locating sidewalk where grass is covering sidewalk.

   ____

2. Note if sunken driveway on Cherokee affects gait and/or balance. ______________________________

3. At the corner of Crescent and Cherokee ask student if Cherokee is a deadend or through street? __________

4. Additional observations:

D. Turn north and walk along Crescent until you get to Hillcrest.

1. After turning north on Crescent ask the student where the sun is? ______________________________

2. If an area is covered by shade from bushes, note if student's pace becomes slower due to uneven lighting. ________

3. Additional observations:

E. Cross Hillcrest and continue north on Crescent to Suwannee.

1. When crossing Hillcrest note problem with depth perception of cars. Also note if student knows when to cross. ____

   ____

2. What kind of intersection is Hillcrest and Crescent? ___

   ____

3. Ask which traffic perpendicular (in front), parallel (alongside) is heavy. __________________________

4. Ask what kind of street Crescent is: a through or dead end street? ______________________________

5. Additional observations:

F. At Crescent and Suwannee, turn east and walk along Suwannee crossing Hillyer and walk up to Pio Nono.

1. Ask student to read another house number? ____________

2. Use same procedure as earlier in evaluation. Glare may affect reading of house numbers. Ask what is traffic pattern on Suwannee, heavy, medium, light? ____________

3. Ask where sun is, in front, behind, beside? ____________

4. Additional observations:

G. At Suwannee and Pio Nono turn south, walk along Pio Nono crossing Hillcrest and walk toward Cherokee.

1. Note if student knows how to properly cross the lighted street crossing at Hillcrest and Pio Nono by using the traffic light.
____

2. Note if broken sidewalk at south side of Hillcrest affects student's ability to get out of Hillcrest quickly and get on the sidewalk. ______________________________

3. Additional observations:

H. Turn west on Cherokee and walk to northeast corner of Cherokee and Courtland.

1. Does student move around tree on Cherokee? ______________

2. Can student tell if he/she is not on same corner as evaluation started? ______________________________

3. Additional observations:

IV. Outdoor Low Vision Observation List

A. Observe how the student reacts to or performs in the following situations:

1. Starting point with view of sun: front _____ back _____ left _____ right _____
2. Variety of intersections: cross _____ T _____ L _____ Y _____ divided _____ offset _____
3. Multi-directional changes within the route : two _____ three _____ four or more _____
4. Read house numbers from: 15' _____ 5' _____ 1' _____
5. Over-hanging branches: ______________________________
6. Variety of slopes (incline): ______________________________
7. Sidewalk covered by grass: ______________________________
8. Shaded area compared to open bright areas: ______________________________
9. Variety of traffic patterns: heavy _____ medium _____ light _____
10. Traversing street: ______________________________
11. Pedestrian traffic: ______________________________
12. Lighted street crossing: ______________________________

13. Broken sidewalk: ______________________________

14. Sun glare: ______________________________

B. General observations to note:

1. Gait and posture: ______________________________

2. Pace of walk: ______________________________

3. Straight line of travel: ______________________________

4. Depth perception: ______________________________

5. Executions of turns: ______________________________

6. Use of orientation skills: ______________________________

   a. compass direction: ______________________________

   b. clues: ______________________________

   c. landmarks: ______________________________

   d. numbering systems: ______________________________

7. Ability to follow directions: ______________________________

8. Search patterns: ______________________________

9. Distance awareness: ______________________________

10. Direction of moving objects (coming or going): ______________

11. Route selection: ______________________________

12. Scanning procedure: ______________________________

13. Can student see other side of curb: ______________________

14. Can student safely and efficiently cross street: ____________

V. Night Low Vision Campus Evaluation Lesson

Time of night: ____________________ Degree of lighting: ________

Types of lighting: streetlights (lamp poles) ____________________

car lights __________ window lights __________

moon light __________

Procedures for evaluation: Allow the student's vision to adjust to surrounding light setting before beginning the evaluation.

A. Starting in front of the gym, have student walk through the parking lot towards the sidewalk along Vineville Avenue.

1. Note if student avoids cars in parking lot. ______________

2. Note if student identifies sidewalk. ____________________

3. Additional observations:

B. Turn west on sidewalk to side road that goes around the campus.

1. Ask student to identify any lights along or over Vineville Avenue: How many? ______ Colors? ______ Shape? ______

2. Function? (type) ________________________________

3. Notice if headlights from on-coming cars affect student's vision. ____

4. Additional observations:

C. Turn north on side road and follow it to road in front of clinic.

1. Ask student to identify street lights. How many? ________

2. Note distance student is from lights. ___________________

3. Ask student to stop upon seeing a speed breaker and note distance student is from speed breaker. __________________

4. Note if student stumbles in holes or dips in the road.

____

5. Note pace and gait of student in well lighted vs. dark areas.

____

6. Note if student trails grassline to follow turns in road.

____

7. Additional observations:

D. Turn north on road in front of clinic and follow it to parking lot behind girls' cottages then return to present location.

1. Note student's posture when walking down road. __________

____

2. Additional observations:

E. Turn east on road leading back to Vineville.

1. Note if student stops before reaching Vineville Avenue.

____

2. Additional observations:

F. Turn west on sidewalk along Vineville Avenue.

1. Note if student detects curbs of intersecting driveway.

____

2. Note if student travels straight on the sidewalk or trails grassline. ____

3. Additional observations:

G. Turn in towards gym at second driveway; walk up to front of gym and go up and down gym steps.

1. Note if student identifies sidewalk in front of gym. _______

   ____

2. Note how student ascends and descends steps. ____________

   ____

3. Additional observations:

H. Turn west down sloped sidewalk to steps at end and return to front of gym.

1. Note if student holds onto wall while walking down or up the slope. ________________________

2. Additional observations:

VI. Night Low Vision Residential Evaluation Lesson

Time of night: _______ Degree of lighting: ___________

Types of lighting: streetlights (lamp poles) __________

car lights _________ window lighting __________

moon light _________

Procedures for evaluation: Allow the student's vision to adjust to surrounding light setting before beginning the evaluation.

A. Starting at northeast corner of Courtland and Cherokee - facing Courtland - have student cross Courtland.

1. Note how student detects curbs of street. ________________
2. Note how student checks for traffic before crossing. ______

   ____
3. Additional observations:

B. Turn south and cross Cherokee.

1. Note street crossing procedures. ________________________
2. Additional observations:

C. Turn west and walk to Hillyer.

1. Note student's ability to follow sidewalk. ________________
2. Note student's ability to pick up curb at Hillyer. ________
3. Additional observations:

D. Cross Hillyer and continue to Crescent.

1. Note if student detects right angle curve in sidewalk.
2. Ask student to identify what kind of intersection it is.
3. Additional observations:

E. Turn north and cross Cherokee.

1. Note how student traverses grass before reaching curb.
2. Additional observations:

F. Turn east to Hillyer; cross Hillyer.

1. Note if student avoids objects on sidewalk. ______________
2. Note if student identifies driveways. ____________________
3. Note if slopes on driveways affect student's balance or natural gait. ____
4. Note if student avoids overhanging tree limbs. ___________
5. Additional observations:

G. Turn north to Hillcrest; cross Hillcrest.

1. Note how sound of cars or headlights affect student's street crossing ability on a busy street. ________________
2. Additional observations:

H. Walk north to Suwannee.

1. Note if broken sidewalk affects student's balance or gait.

   ____

2. Note if unseen sounds affect student's travel ability (car screeching, dog barking, etc.) _________________________
3. Additional observations:

I. Turn east to Courtland; turn south to Hillcrest.

1. Has student been able to follow directions? ______________

2. Additional observations:

J. Cross Hillcrest and return to car.

1. Note if student can identify car. ________________________

2. Additional observations:

VII. Night Low Vision Commercial Evaluation Lesson

Time of night: ________________ Degree of lighting: ___________

Types of lighting: window lighting _________ lighted signs ____

streetlights (lamp poles) ________ car lights ___________

moon light _____________

Procedures for evaluation: Allow the student's vision to adjust to surrounding light setting before beginning the evaluation.

A. Start from parked car in center of Poplar between second and third streets. Allow student to briefly look around area.

1. Student's comments: _____________________________________

2. Additional observations:

B. Turn west and proceed to southeast corner of Poplar (divide) and second.

1. Note how student travels through the parking area. ________
2. Note if student detects curb of parking area. ____________
3. Additional observations:

C. Turn north and cross Poplar.

1. Note if student knows when to cross. ______________________
2. Note if student uses traffic control lights or sound of cars.

   ____

3. Note if student avoids idling cars on crosswalk. __________
4. Additional observations:

D. Travel north to Cherry; cross Cherry.

1. Note if sights and sounds distract student's travel ability.

   ____

2. Note if student detects alley. ____________________________
3. Note how student reacts to wheelchair slope, if contacted instead of curb.
4. Additional observations:

E. Continue north to Mulberry.

1. Note if student can identify parking meters alongside second street. ______________________________

2. Note if student can identify traffic control lights before reaching intersection. ______________________

3. Distance from lights? ______________________

4. Note where student walks on sidewalk. ____________

5. Is it consistent? ________________________

6. Note if student can identify Mulberry as a divided street.

   ____

7. Additional observations:

F. Cross Mulberry and turn east to third street.

1. Note how student reacts to underground parking entrances with or without divide islands. ___________________

2. Ask student to identify where cars are parked on Mulberry.

   ____

3. Note if student can identify the yellow markings on curbs.

   ____

4. Additional observations:

G. Cross third; turn south; cross Mulberry and continue to Cherry.

1. Note if student can comprehend the crossing of two divided streets consecutively. ______________________

2. Ask student to identify how cars are parked on third street.

   ____

3. Note if student detects blended curbs. ______________

4. Additional observations:

H. Cross Cherry (allow student to look east on Cherry); turn west; cross Third.

1. Note if student identifies large planters along Cherry.

   ____

2. Note if student identifies offset corner. ______________

3. Additional observations:

VIII. Outdoor Night Low Vision Observation List

A. Observe how the student reacts to or performs in the following situations and what he/she can identify using residual vision.

Time of night: ____________ Degree of lighting: ____________

Types of lighting: window ________ lighted signs ________

Street lights ______ car lights ______ moon lights ______

Adjustment time for eyes to light setting:

1. Sidewalks versus other terrain ______________________
2. Speed breakers ______________________
3. Holes in sidewalk ______________________

4. Shadows across travel path ______________________________

5. Objects on or along travel path __________________________

____

6. Overhanging objects along travel path ____________________

7. Curbs or steps ____

8. Depth of curbs or steps (including blended) ______________

____

9. Lights through windows _________________________________

10. Street lights (lamp poles) _____________________________

11. Traffic control lights (colors) _________________________

12. Car lights ____

13. Maintains straight alignment on varying widths of sidewalks

____

14. Broken sidewalks _____________________________________

15. Offset sidewalks or street corners _______________________

16. Residential street crossings (unlighted) __________________

17. Commercial street crossings (traffic light controlled) _____

____

18. Variety of slope (incline, decline) ______________________

19. Driveways (slope) ____________________________________

20. Variety of terrain ____________________________________

B. General observations to note

1. Gait and posture _______________________________________

2. Pace of walk ____

3. Straight line of travel _________________________________

4. Depth perception ______________________________

5. Execution of turns ______________________________

6. Use of orientation skills ______________________________

    a. compass directions ______________________________

    b. clues ______________________________

    c. landmarks ______________________________

    d. numbering systems ______________________________

7. Ability to follow directions ______________________________

8. Scanning procedure ______________________________

9. Distance awareness ______________________________

10. Direction of moving objects (coming or going) ______________

11. Ability to cross streets safely-unlighted ______________

12. Ability to cross streets-lighted ______________________

IX. Activities for Evaluation and Improving Low Vision Utilization

A. Identification Fun: Have the student sit a specific distance from the teacher. Display various objects from very large to small. Check those the student can identify. You might also ask the student to describe parts of the object. The room should be well illuminated.

B. Look and Tell: From a specific area in an unfamiliar room have the student identify all the objects he/she can see. Note the distance and objects.

C. Room Changes: Change bulletin boards frequently, add new items to the room, or change your set-up without pointing it out to the students. Note the distance from which they notice a change and their method of noticing (alert to changes, needs to be pointed out, explores room frequently, manipulates items, etc.)

D. Treasure Walk: Take your students for a walk around the school neighborhood. They should point towards any item they see and identify it. If the item has been previously mentioned it does not count as a point for that person. The one with the most points wins. You might ask them to describe the object they point towards. Or ... you might stop at a specific point and ask them what they see.

E. Stop and Go Light: Take your students to a street corner that has stop lights. Let them tell you when the light changes. Vary the distance and note when they can correctly tell the color of the light.

F. Basket Toss: Have the students toss balls or bean bag into a waste basket. A ball inside the basket scores a point for the student. Change the distance from the basket and note the success of the toss. This can be adapted to team plays.

G. Design Copy: Using parquetry, design cubes, blocks, pegs, etc., have the students copy a design pattern. The first to copy it correctly scores a point. Note the distance of looking at pattern and re-doing design.

H. Color Fun: Cut out a variety of colored construction paper into squares. Have the student assort them according to color. If each student is given the same amount of squares this can be a times activity. The first one through in the least amount of time is the winner.

X. Activities for Low Vision Utilization Training in Relation to Orientation and Mobility Skills

After a series of low vision evaluations have been administered to the student to determine the needs of the student, an individualized program is developed for each student. This prescription may contain one, several, or all of the following objectives, depending on the needs of the student.

A. Increasing Utilization of Vision

  1. Examples of Activities

    a. making use of any of the visual stimulation materials in the low vision room

    b. establishing visual landmarks both in and outdoors

    c. having the student verbalize about what he/she is seeing

B. Increasing Student's Color Discrimination

  1. Examples of Activities

    a. learning the colors of common street signs, crosswalk lines, grassline, buildings they can see, etc.

b. utilizing the color of buildings as a part of their landmark

c. learning the colors of the WALK and DON'T WALK signs for an aid in crossing a street

C. Increasing the Student's Ability to Solicit Aid

1. Examples of Activities

a. learning where, how, and when to solicit aid

b. learning where not to solicit aid

c. learning the common courtesy for dealing with the general public

d. decreasing the fear of contact with the general public

D. Increasing the Student's Knowledge of Map Making

1. Examples of Activities

a. enlarging a small section of a map of Macon for student use

b. encourage student to fill in own landmarks on the map

c. have student fill own street names on the map

E. Route Travel Utilization

1. Examples of Activities

a. have student follow prescribed routes drawn in for him/her on a map

b. give student two end points, a starting point and ending point and have him/her plot own route using the map

c. have the student plot two routes to the same place and after following these routes, decide which is the best route

F. Increase the Use of Compass Directions

1. Examples of Activities

a. have the student think of all routes in terms of compass directions even if he/she knows the route by landmarks for a functional review

   b. establish a visual landmark the student can use for directional orientation

G. Increase the Student's Ability to Utilize Public Transportation

   1. Examples of Activities

      a. have student take the bus or a cab downtown on several lessons

      b. have the student write down all the information about the bus and the bus schedule

      c. have student call the taxicab company, ask the price of a ride to the local bus station, perhaps take a taxicab for mobility

      d. have student play the role of calling the airport to make a plane reservation (instructor plays role of the party called)

H. Increase Student's Use of Hearing

   1. Examples of Activities

      a. have student listen for traffic surge at an intersection even though he/she may be able to see the cars moving - perhaps blindfold student for a lesson and just have student listen to the surge

      b. make student aware of sounds such as a coke machine, a cash register, or an elevator opening, that can be useful clues

I. Increase Memory of Landmarks

   1. Examples of Activities

      a. after the student has established several landmarks, have him/her make a card file of all the relevant landmarks he/she has located

      b. make student more aware of the value of signs outside buildings

J. Increase Student's Ability to Utilize the Telephone Correctly

   1. Examples of Activities

      a. have the student get a list of emergency numbers and put these numbers into large print for his own use

b. play roles and have the student call information for a number or call the operator for a long distance call

c. have the student make a list of places where he/she may be likely to find public phones that he/she can use when necessary

d. have the student use a pay phone to make a call

K. Increase Student's Logical Thought Process

1. Examples of Activities

a. expose student to the following places within the community and have the student draw conclusions from these places:

drug store
grocery store
dry cleaners
bank
mini food store
restaurant
post office
police station
college
discount store
barber shop
dress shop
movie theater
self-service snack bar
health clinic
fire department
mall or shopping center
beauty shop
laundry mat
department store
hospital
places of recreation

b. these conclusions could be ask for:

1. type of store of service it is
2. location of this objective
3. hours of operation
4. price of service or items for sale
5. quality of service or items
6. quantity on hand
7. transportation available to these places
8. knowledge of where a check can and cannot be used for payment of service
9. telephone number of the place
10. size and shape of the place
11. comparison between similar objectives

L. Increase Student's Ability to Make Independent Purchases

   1. Examples of Activities

      a. have student buy groceries from a list, independent of any help

      b. have student do a price comparison on the same item in different stores

CHAPTER THREE

POSTURAL DEVELOPMENT AND MOTOR COORDINATION

POSTURAL DEVELOPMENT AND MOTOR COORDINATION

Introduction

Proper postural development and motor coordination is important for anyone to be able to have the ability to perform muscular activities with skill and balance. This includes being able to travel safely and independently either with or without a cane. The following unit presents a variety of skills which are desirable for all people to develop in order to function smoothly and efficiently throughout life. Several exercises and activities that help to improve one's ability to perform some of these skills will be discussed throughout this section.

A postural checklist and a motor coordination checklist is included as a checksheet for each student as to whether he or she can or cannot perform the specific skills or has the proper postural development. An individual record should be kept for both pre and post evaluation testing.

I. Postural Development Exercises

A. Kinesthetic exercises for body awareness and motor perceptual abilities:

1. Have the student stand both facing towards and away from a large fan.

    a. Move specific body parts.

    b. Climb a ladder to feel muscle movements.

2. Have students jump on a trampoline.

3. Have students stand with their backs against a wall to develop orientation to surroundings and self.

    a. Make flexions and abductions of arm muscles.

    b. Move arms at shoulder joints.

    c. Make turns keeping contact with wall.

4. Reduce tenseness and rigidity of body muscles.

    a. Have students learn voluntary contraction and relaxation of large muscle groups in connection with breathing.

    b. Have students dance to various musical rhythms.

5. Body identification and balance.

    a. Have student stand with back straight. Instructor and/or student can call out a body part and tell what direction to move it.

    Examples:

    1. right arm move to the left
    2. left leg move to the left
    3. right leg move to the front (forwards)

    b. Later the directions can get more complicated by including compass directions and successions of movements.

    1. left leg move to the north
    2. right arm move to the east
    3. right leg to west, left leg to north, and left arm to south

B. Exercises and activities for developing better balance and motor coordination:

  1. trampoline
  2. balance beam
  3. jumping a rope
  4. roller skating
  5. stepping ladder
     a. The student walks, placing feet between the rungs of the ladder. Begin with the ladder on the ground, then three feet off the ground, and then to knee level or higher.
     b. Teach the student to place one foot before the other in turn in separate, adjoining spaces on ladder. Later have student walk backwards.

C. Exercises and activities for straightening the back:

  1. Flatten back
     a. Student lies on a mat with knees up, feet flat, and fingers placed on stomach.
        1. Student then curls up (head, shoulders, and elbows) to a near sitting position - this shortens the abdominal and lengthens the eretor spinal muscles of the lower back.
        2. Student tightens and holds in stomach muscles while holding breath, then relaxes and exhales.
     b. Student lies on a mat with knees apart and tilts pelvis upward to raise the tip of spine off the mat.
     c. Student lies on a mat with legs straight and lifts legs slightly off the floor while keeping legs straight.
  2. Correct kyphosis of slump
     a. Lie prone on a mat with arms extended at right angles to the body. Student tries to raise arms against instructors resistance.
     b. Student stands straight up and then bends backwards with aid and support.

D. Exercises and activities for dropped head:

  1. Place hands behind head and push down slightly while pushing up with head.

  2. Have student walk with a bean bag on head.

E. Activities for proper gait:

  1. tread mill

    a. heel-toe action

    b. out-toeing

F. Exercises for total body alignment:

  1. push-ups on floor

  2. push-ups against wall

G. Corrections for veering tendencies:

  1. Shoe lift - this is applied to the heel of the shoe on the lower posterior iliac spine side.

  2. Point to objective for projection of straight line of travel - have student point in a straight line to where he/she wants to end up while walking to the objective.

  3. sound localization - have student walk a straight line toward a continuous, then intermittent, and finally a single initial sound.

II. Posture Checklist

	Pre Check	Post Check	Comments
A. Increased knee flexion			
B. Flat footed			
C. Shortened stride			
D. Out-toed			
E. Fatigues easily			
F. Malaligned hips, spine, knee			
G. Dropped head			
H. Round shouldered			
I. Stiffening of the arms			
J. Lack of arm swing			
K. Inability to balance on one foot			
L. High stepping			
M. Uneven stepping			
N. Leading with one foot			
O. Upper body leaning back			
P. Lumbering - heavy footed			
Q. Arm waving			
R. Head Swinging			

III. Gross Motor Coordination

A. Sit - to rest on a seat or chair in an erect manner in normal position:

1. Descriptive activity - sit on a bench (one that has no back support with back straight, head held up with chin parallel to the floor, and feet flat on the floor).

2. Maneuvering activity - the student should be given a chair suitable for his height and without a back support. The back should be straight and feet flat on the floor in front of the chair. The head should be held up with chin parallel to the floor. If necessary, manipulate the parts of the body to achieve the proper position or have the student "feel" another's body who is in proper position.

3. Activities

   a. Object try-out: have student sit on and in various objects (box, tire, etc.).

   b. Cross legs: have student sit on the floor in "Indian" style.

B. Stand - to be upright on the feet in an erect manner:

1. Descriptive activity - with feet parallel to the floor, stand in an upright position. One's head should be held up with chin parallel to the floor.

2. Maneuvering activity - have the student stand against a flat surface with the shoulder blades and heels against the surface. Head is centered and held upright, with chin parallel to the floor. Stomach muscles are held in. This can be demonstrated on the student or he/she can "feel" another's body who is in correct position. After these are demonstrated the student should resume the same posture without the aid of a surface.

3. Activities

   a. Stand and exercise: while in a standing position, have the students perform various exercises.

   b. Stand with feelings: have the students stand as if they felt happy, tall, tired, small, excited, etc.

C. Walk - to move erect in a coordinated upright fashion without support by transferring the weight from one foot to another:

1. Descriptive activity - hold your body erect and move your legs forward one at a time with your hips slightly swiveling.

2. Maneuvering activity - have the student achieve a standing posture (body erect, weight evenly distributed on both feet, shoulders level, head held high with the chin parallel to the ground). Position yourself behind the student and explain as you go. Move his/her legs forward one at a time, slightly swiveling the hips so that he/she is propelled forward while upright. There should be a "give" in the knees as the heels touch the floor. Lift the knees if there is any tendency to shuffle or drag the feet. The foot movement should be an easy roll from the heel, to the ball of the foot, up and over the toe, with toe pointing forward. Remind the student to keep the face forward in the direction of the walk.

3. Activities

    a. Rhythm walk - have the student walk according to the tempo of the rhythm.

    b. Step sizes - have the student walk like an animal (i.e. bird, elephant, dog, lion, etc.)

D. Run - to propel one's self forward in a pendular type of movement with a period of no support:

1. Descriptive activity - running is similar to walking but more rapid. One's body leans slightly forward and knees are raised higher than in walking. Contact with the ground is with the ball of your foot. Your arms swing in coordination with the legs, similar to walking, but your elbows are bent and movement is at a more rapid rate.

2. Maneuvering activity - have the student stand beside the teacher and grasp the teacher's hand or elbow, depending on the height of the student. The teacher should begin to jog and correct the student's performance. Knees should be high and at least parallel to the ground with toes pointed straight forward. Weight is on the ball of the foot. Elbows are at right angles with the hands closed but not clinched. Arms should swing freely at the side, avoiding excessive twisting of the shoulders. Speed and forward movement gradually increases as the student becomes more proficient with the jogging stage. In forward running the upper body is straight and leaning as far forward as possible without falling.

3. Activities

    a. Guide and run - have student run independently using a guide wire.

b. Variation runs - have students run backwards, forwards, in place, on toes, on whole foot, etc. Set up a pattern for them to follow or have them set up their own pattern.

E. Side-step - to move to the side without turning the body or feet:

1. Descriptive activity - while standing erect, move your right foot to the right and slide your left foot to meet the right foot (or vice versa).

2. Maneuvering activity - while the student is standing erect, the teacher moves the right foot slightly (about 12 inches). The left foot is then moved to touch the right one. As the student becomes more proficient, larger and more rapid steps may be taken while going in either direction.

3. Activities

a. Listen and step - the teacher plays a beat on a hand drum as he/she moves about the room. The students side-step in the direction of the beat. Vary the tempo for the students to move fast or slow.

b. Shape change - have the students side-step in a variety of shapes (i.e. circle, triangle, curve, square, etc.)

*F. Bend - to perform an axial movement in which the arms, legs, head or trunk are inclined forward, backward or sideward:

1. Descriptive activity - one's feet remain stationary while you move your arms, legs, head and upper body by lowering and straightening them in as many ways as possible.

2. Maneuvering activity - the teacher stands near the student and aids in manipulation of body positioning.

3. Activities

a. Support change - alter the base of support (stand, kneel, sit) for the student to perform bending movements.

b. Windy day - have the students pretend they are trees (waist down is the trunk of the tree). Their "trunks" remain stationary but their branches bend all directions because it is a windy day. The wind may blow lightly or as if there is a terrific rain and wind storm.

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*These six motor coordination objectives were adapted from the Curriculum Guide for the State of Illinois.

IV. Motor Coordination Checklist

OBJECTIVE	COMMENT	OBJECTIVE	COMMENT
Lie down		Side-step	
Roll		Gallop	
Scoot		Skip	
Sit		Stretch	
Kneel		Push and Pull	
Crawl		Twist	
Stand		Bend	
Walk		Stoop & Squat	
March		Climb	
Jump		Grasp	
Hop		Throw	
Run			

CHAPTER FOUR

CONCEPT DEVELOPMENT

Introduction

The mobility department is extremely interested in working on pre-mobility type concepts that will affect the student's ability to learn orientation and mobility skills later on. Therefore, a concept development program has begun including the youngest children in the school. Some of the concept work is instructed on the individual level, and some is instructed to small group classes depending on the amount of time available by the orientation and mobility instructor and the abilities of the students involved.

The concept program has a variety of units that are taught; corresponding to the developmental level of the student rather than the grade level. There is no structured approach to the order of the units as they will vary with the students' needs. A series of concept evaluations are administered (see forms) and from these evaluations a prescription of training in these areas in which he/she is functioning poorly, is developed rather than the complete concept program from start to finish. An attempt is made to avoid confusing a true grasp of concepts with the mere ability to verbalize about a concept. This is done by using books about the community, such as All Around the City, that can be read to the student and functional questions asked after the story to get a broader idea of the true concept level.

The key to the progress of the students in these concept classes is the feedback given to them in the classroom by their teachers. Without this help the students would not have the repetition necessary for a good grasp of the concepts. Therefore the key to this section of our curriculum is maintaining a communication line between the orientation and mobility department and the classroom teachers. The classroom teacher can also be very helpful by encouraging students independently to find their own way to the other parts of the building.

Concept development encompasses a large variety of concepts in relation to orientation and mobility, but many of these concepts are not just necessary for orientation and mobility. Since this is the case, the orientation and mobility instructor should try to deal primarily with these concepts that may not be stressed in another class. It is good to have repetition, but the quantity of concepts needed dictate that it may be necessary for the orientation and mobility instructor to stick to those that the child gets the least exposure to in his/her regular class.

The following summary of the units taught is the complete series of units that have been developed thus far. Again, it must be stressed that by no means are these units the final word for concept development but rather only a beginning point for the Georgia Academy for the Blind.

I. Body Imagery

A. Self

- an understanding of the parts of the body
- knowledge of the use of each body part
- understanding of how each body part moves
- understanding of the relationship between body parts

B. Others

- parts of another persons' body parts
- ability to imitate body movements made by another
- ability to compare the similarities of two bodies

C. Environment

- understanding of the body's position in space
- ability to position objects correctly in relation to the body
- understanding of the right and left sides of the body as it relates to other objects in the environment

D. Family Imagery

- knowledge of the family, the number of members, and the members' relation to that student
- type of neighborhood the family lives in (city or country)
- ability to assemble a family unit from pictures of people, or models of people
- family's use of the various rooms of the house

II. Spatial Concepts

A. This understanding of the spatial concepts should be in relation to their body first, then to other people, then to objects in the environment.

- an understanding of the following spatial concepts

top
in
over
above
near
inside
up
forward
left
in front
bottom
out
under
below
far
outside
down
backward
right
behind
on
off

III. Gross Motor Movement

It is in this unit where the mobility instructor should work closely with the physical education department, and try to compliment what is already being carried out on the gym class periods.

- development of good balance, flexibility, coordination and strength of the muscles

- ability to perform such movements as hopping, skipping, galloping, jumping, etc.

- ability to climb the steps correctly utilizing the one foot on each step method

- ability to climb up and down a ladder

- ability to perform stunts on a trampoline

- ability to jump a rope

IV. Size, Shape, Odor, and Texture Discrimination

- ability to identify sizes, shapes, odors, and textures by names

- ability to tell where these may be found in the classroom, or outdoors

- knowledge of their use for mobility purposes

- knowledge of where these are commonly found in the student's home environment

- ability to compare and contrast sizes, shapes, textures, and odors that they encounter while traveling

V. Sound Discrimination

A. Student needs to have the:

- ability to identify various sounds
- ability to match similar sounds
- ability to choose the relevant sounds for travel purposes
- ability to project towards or away from a sound
- ability to locate the source of a sound
- ability to listen for certain sounds and ignore irrelevant sounds

VI. Opposites

A. Student needs to have the:

- ability to make opposite body movements
- ability to determine the opposite of a given route
- knowledge of opposite compass directions
- knowledge of how cars can go in opposite directions on the same street
- ability to name opposites verbally, then place objects in opposite positions

VII. Same and Different

A. Student needs to have the:

- ability to discriminate between traffic going in the same direction and traffic going in different directions
- knowledge of the idea that you can be on the same block, but different streets
- ability to discriminate whether a sound heard today is the same sound heard elsewhere
- knowledge of the traffic - on the same or different side going in the same direction
- knowledge of how you can have four different corners at the same intersection

- ability to take the same route to an objective, or a different route to the same objective

- ability to identify objects of the same color, or same texture, same width, height, and the ability to tell when they are different

VIII. Parallel and Perpendicular Concepts - Or Along Side and In Front Concept

This concept can be instructed primarily with the idea of parallel and perpendicular angles indoors, such as walking parallel or perpendicular to a desk. However, this concept shows better transfer when a more functional lesson is used outdoors.

- knowledge of when the cars are going toward the student or away from the student

- knowledge of when the cars are in front or behind the student

- knowledge of when the cars are along side of the student

- knowledge of what side the cars are on (left, right, etc.)

- ability to determine when the cars are considered parallel to the student

- ability to determine when the cars are considered parallel to the student

- ability to tell when the cars are not parallel to the student

- ability to tell when the cars are perpendicular to the student

- ability to position the body either parallel or perpendicular to the cars

IX. Outdoor Concepts

A. Student needs to have the:

1. Block

   - ability to walk around a block
   - ability to walk down just one side of the block
   - knowledge of the difference between the two above activities
   - knowledge that a block has four sides
   - ability to compare a block to a rectangle or square
   - knowledge that the houses are around the outside of a block
   - knowledge that the alleys run through the middle of the block
   - knowledge that blocks vary in size and shape
   - knowledge that blocks usually have two sets of streets
   - knowledge that the block is bordered by the streets
   - knowledge that the streets usually are parallel to the sidewalks that go around the block, and the sidewalks leading up the houses are usually perpendicular to the street

2. Corner

   - knowledge of where corners are located on a block
   - knowledge of the angle of a corner
   - knowledge of the number of alternative ways to turn at a corner
   - knowledge of the position of each corner to the intersection as a whole
   - knowledge of the directional position of the corner to the intersection

X. Perimeter Concept

A. Student needs to have the:

- ability to understand "perimeter"
- ability to walk around the room's perimeter, and relate this to the perimeter of a block
- ability to functionally utilize this concept for a perimeter search

XI. Concept of Turns

A. Student needs to have the:

- ability to make a 45, 90, 360, and 180 degree turn
- ability to relate these turns to the left and right sides or whole and half turns
- ability to relate these turns to the compass directions

XII. Traffic Pattern Concepts

A. Student needs to have the:

- knowledge of the difference between one way and two way streets
- knowledge of the number of lanes of traffic a street can have
- knowledge of the parking lane in a street
- ability to remember the directional flow of the traffic
- ability to regain orientation by the traffic patterns
- knowledge of all types of intersections
- knowledge of the use of the traffic surge
- functional idea of how a light cycle works

XIII. Traffic Control Devices

A. Student needs to know the:

- types of traffic control
- colors of common signs (if they have low vision)
- knowledge of how to use these devices

XIV. Community Awareness

A. Things to know:

hospital
drug store
department store
discount store
mini food mart
grocery store
dry cleaners
barber shop
beauty shop
health clinic
recreation places
university or colleges
apartment living
use of newspaper
use of telephone
mall shopping
eating skills
clothing stores
shoe stores
bank

1. Location of these places
2. Hours of operation
3. Price of services
4. Quality of their merchandise
5. Quantity of items on hand
6. Transportation available to these places
7. Places where a check can be used
8. Knowledge of lay-away plan

XV. Example Lessons in Concept Development

The Concept Development Program consists of lesson plans that emphasize the following objectives: increasing body imagery, motor coordination, texture, and odor discrimination, ability to follow directions correctly, increasing the functional awareness of spatial concepts, sound identification and discrimination, improvement of posture and gait patterns, using landmarks and clues, and an introduction to the use of compass directions.

The following is a list of lesson plans that have been found to be useful in the different areas. (Refer to immediately following pages for further detail)

A. Body Imagery

1. Hap Palmer Record - Getting to know Myself

   This record is very good not only for body imagery but for developing spatial concepts. It has been found that if just a few songs are picked out at a time and repeated for several lessons the children show better retention of the song and the skills that go with it. In order for the record to be instructional the teacher should listen to it first and jot down what concepts it involves and then make sure the child understands the concept before playing the record.

2. Play Dough

   This material has multiple uses, but for body imagery is best utilized by making miniature models of people. The clay dies after a short time, and these models can be saved to compare to models they make in the future. Have the students think about how many pieces of each part they will need before beginning.

3. Self Portrait

   If the student has enough vision to draw, have him/her make a picture of themselves. This sometimes shows how the student sees himself/herself.

4. Self Concept Book

   Have the students make a book all about themselves. For example: their feelings, likes and dislikes, favorite things to do, etc. This is a very useful lesson for when you first pick up a student in order to find out as much as possible about the student.

5. Dr. Seuss Books

   Several of these books are good for letting the students be different characters that they like and act out parts of the story.

6. Magazine Pictures

   Have the students collect pictures from magazines that they like of various people with various different expressions and moods being displayed. Also you can have them make a collection of people pictures that represent the number of people in their family. Pictures from furniture ads are good for having the students sort into what room in the house they go.

7. Finger Paints

This material is good for awareness of all the different parts of the hand. The students can first make designs with one finger, then two, then the whole hand, then the palm, etc.

8. Hand Prints

Have the students make hand prints in clay, plaster, etc. Also they can trace their hand or foot and color it.

9. Body Pictures

Have the student lie down and trace all around him/her with a colorful marker. Then have him/her color it. (For the totally blind these pictures can easily be outlined in some kind of tactile material, such as (dried) glue. The students can add such things as hair (yarn) and the other facial parts. Old pieces of material can be cut up to make clothes for the picture).

10. Body Puzzles

Cut up pieces of a person such as from a newspaper ad, or from felt, and have the students put the person back together.

11. Twister Game

A regular twister game is good for the body imagery (left and right orientation) of partially sighted students. It can easily be adapted for the totals by applying felt shapes to the board so that they can feel for the proper place to put their hands.

12. Sticker Books

These books are good for low vision students as it makes them match body parts with the outline on another page. It increases his/her knowledge about where the different parts would be placed.

13. Fingerplays

These are good for awareness of the hand and its individual fingers and how they can move.

14. Exercises

Any exercise that utilizes the different body parts will reinforce body imagery.

B. Landmarks and Clues

Have the student look or feel all of the main objects in the mobility office. Take the student out and bring them back in and ask how they know they are in the mobility office. Discuss landmarks. Ask such questions as "Where are the windows?"

C. Body Imagery - What is missing?

Prerequisite - student has knowledge of location of body part

Draw and outline with Elmer's glue some pictures of a person who is missing a main body part, such as head, arm, torso.

D. Body Imagery and Spatial Relationship

- life size picture

- have student lie on large piece of paper and draw around the student in pencil

- later use Elmer's glue and go around outline creating a tactual surface

- Make sure to draw dividing lines or draw in facial parts for some basic body parts, such as: eyes, nose, mouth, chin, neck, arms, wrist, waist, legs, knees, ankles, torso. By dividing these parts, the student may be able to understand spatial relationship of body parts to each other.

- let student color in body parts as you discuss their function and position in terms of rest of body.

E. "Make a Face" - Spatial relationship

Materials: Playdo, Playdo-Goofy Oddkins

Prerequisite: understand shape, difference in ball and egg-shaped circle

- Know facial part and somewhat their spatial position of the face. After discussing and reviewing the face of the life-size picture to reinforce the discussion, use the Goofy Playdo material. With the Playdo have the student and instructor create a face on a Playdo head. Include ears, eyes, nose, mouth - do not forget to leave room for chin and forehead.

F. Turns (basic half and full)

Start with full and half turns. Have both student and teacher standing and facing each other. Next have teacher put hands on student's shoulders and manipulate the student on both full and half turns until student can identify. Use the face-to-face position as base to lesson. Later you can go to more than one turn or not using face to face and origin of turns.

XVI. Concept Activities for the Parent

The next section of the concept development consists of letters to parents with activities to do with their children.

Often parents state they do not know any activities they can do with their children. Here are just a few; hopefully, this will start a relationship between parent and instructor that can benefit the child.

FINGERPLAYS

Dear Parents:

Enjoy with your child saying rhymes that tell a story for hand and finger movements. This type of activity is good exercise in holding attention and remembering instructions. It is relaxing after noisy play.

Here are some for you to use with your child. Make up others to poems and rhymes you know.

Sincerely,

HANDS ON SHOULDERS

Hands on shoulders, hands on knees,
(Follow action as rhyme indicates)
Hands behind you, if you please;
Touch your shoulders, now your nose,
Now your hair and now your toes;
Hands up high in the air
Down at your sides and touch your hair;
Hands up high as before,
Now clap your hands, one, two, three,
four.

RIGHT HAND, LEFT HAND

This is my right hand.
(Follow action as rhyme indicates)
I'll raise it up high.
This is my left hand.
I'll touch the sky.
Right hand, left hand,
Roll them around.
Left hand, right hand,
Pound, pound, pound.

TEN FINGERS

I have ten little fingers
(Follow action as rhyme indicates).
And they all belong to me.
I can make them do things.
Would you like to see?
I can shut them up tight
or open them wide.
I can put them together
or make them all hide.
I can make them jump high,
I can make them jump low,
I can fold them quietly
and hold them just so.

MY TURTLE

This is my turtle,
(Make fist; extend thumb)

He lives in a shell.
(Hide thumb in fist)

He likes his home very well.

He pokes his head out when
he wants to eat.
(Extend thumb)

And pulls it back in when
he wants to sleep.
(Hide thumb in fist).

BIG, BIGGER, BIGGEST

Dear Parents,

At school we are learning talk about the size of things. Sometimes we compare the size of two things. Sometimes we compare more than two.

We listen for the sounds at the end of the size words, especially for -er and -est. When we compare two objects or people, we hear and say the -er form. (Example: Alonzo is bigger than Antonio). When we compare more than two, we hear and say the -est form. (Example: Alonzo is the biggest boy in the class).

Here are some suggestions you can use at home to help your child learn to talk about the size of things.

1. Place some objects such as boxes, small containers, buttons, or cards in a box or on the floor. Let your child arrange them according to size: smallest to largest; largest to smallest; same sizes together. During the arranging, talk about which are bigger, which are smaller, and which is biggest or smallest of all.
2. Play games of "smaller but larger."
   - ☐ Find something smaller than your hand but larger than your finger.
   - ☐ Find something smaller than the clock but bigger than a penny.
   - ☐ Find something smaller than an orange but larger than a pea.
3. Play size games while walking around. Say, "I see something tall, it is a telephone pole. Can you find something taller? or shorter?" Keep playing until no one can find anything taller or shorter, wider or narrower, etc.

Use many words that tell the size of things.

Sincerely,

Somthing to Read Together

LITTLE OR BIG?

Claryce Allen

I'm big when I stand
Beside Ronny-
My brother, age two,
But I'm little by Sister-
Age ten and named Sue.

I'm bigger than Ronny.
Sue's bigger than me.
So Sue is the biggest.
One of us three.

COLORS

Dear Parents,

Throughout the school year we will be adding color words to our vocabularies so that we can describe the things we see. You can help your child add new color words and use those he/she already knows. Here are some suggestions:

1. As you help your child select clothes for school, talk about the blue dress or the green slacks or the red socks rather than just the dress, slacks, or socks. This is a good time to show your child how some colors go better together than others.
2. As you take a walk or ride with your child, play guessing games with color. You can say, "I spy something yellow (or red or blue or orange).," and let the child continue to guess until he/she can name the object.

   When he/she guesses it, let them choose something and give its color. Then you guess what it is.
3. Look at color photographs or magazine pictures and pretend that you and your child are walking into the picture together. As you walk along, what colors do you see? Take turns describing the colors of things in the pictures.
4. Look for books in the library that tell about colors. One of the following may be in your library:

   IS IT BLUE AS A BUTTERFLY? by Rebecca Kalusky

   THE COLOR KITTENS by Margaret Wise Brown

   WHAT COLOR IS LOVE? by Joan Walsh Anglund
5. Look at things through pieces of bright colored cellophane or colored glass.

Sincerely,

Something to Read Together

GRANDPA DROPPED HIS GLASSES

Leroy F. Jackson

Grandpa dropped his glasses once

In a pot of dye,

And when he put them on again

He saw a purple sky.

Purple fires were rising up

From a purple hill,

Men were grinding purple cider

At a purple mill.

Purple Adeline was playing

With a purple doll;

Little purple dragon flies

Were climbing up the wall.

And at the supper-table

He got crazy as a loon

From eating purple apple dumplings

With a purple spoon.

(Read the poem over again and again and substitute other color words for purple.)

READING SAFETY SIGNS

Dear Parents,

Most reading instruction will take place at school, but we need your help in teaching your child to read safety signs. As you walk together, ride a bus, or take an automobile ride together, observe the safety signs and read them. Play games that will help the child to read the signs independently.

Watch for some of these words:

stop
go
walk
don't walk
open
closed
no parking
no left turn
danger
do not enter
entrance
exit
go slow
school zone
no passing
keep right

Some traffic signs are always the same shape and same color. Make signs of cardboard and use them in the house and yard to play traffic games.

Sincerely,

STOP -- GO

Dorothy Baruch

Automobiles

In

a

row

Wait to go

While the signal says:

STOP

Bell ring

Tingaling

Red light's gone!

Green light's on!

Horns blow!

And the row

Starts

to

GO

MATCHING

Dear Parents,

The ability to match things that are alike is one of the skills required for reading. Children can do this long before they are able to read print. They need practice, practice, practice!

As often as possible let your child participate in matching activities. Some suggestions:

- ☐ Matching pairs of socks when helping to put away the laundry.
- ☐ Separating teaspoons from tablespoons
- ☐ Stacking together plates and saucers that are alike.
- ☐ Arranging a shelf of groceries by putting things that are the same together.
- ☐ Making games from food label by saving some that are used frequently (labels from cans, bags, boxes) and stacking those that are alike together.
- ☐ Matching labels with unopened products on a grocery shelf.
- ☐ Going grocery shopping and letting the child find foods that he/she has learned from the labels -- this time without a matching one.

As you play matching games, read the name of the food and point to the place on the label where it is printed. Do not expect your child to remember the printed names at first.

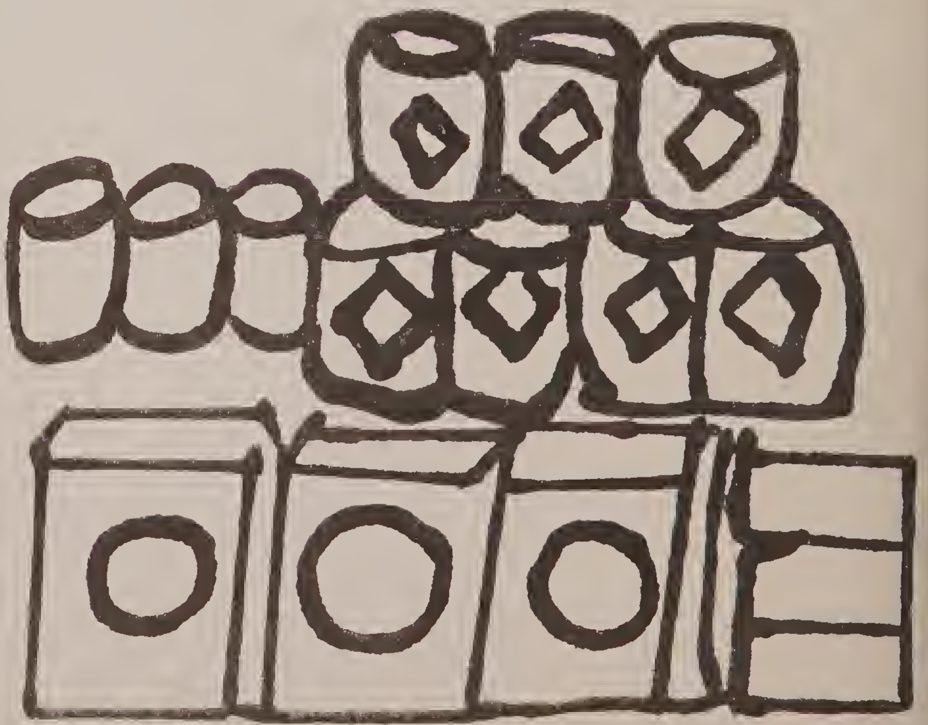
Sincerely,

Something to Read Together

MATCHING SOCKS

Claryce Allen

Red with red
Blue with blue
Green with green
White with white
Plaid with plaid
Stripe with stripe
Holes with holes --
Oops! That's not right!



XVII. Concept Activities for the O & M Instructor

A. Dolly

Have the student sit on cart and first walk (pull) with feet, then have them push, while sitting, about 40 feet. Have the student lay stomach on cart and pull and push with arm. Feet should raise off ground. Any additional maneuvering like turning can be performed in above-mentioned positions. Fatigue may vary the quantity of areas covered. Gross motor development.

B. Piano - finger dexterity

Using the three fingers used for braille on each hand, create different patterns in combination of pounding the keys; such as playing three notes with pointer fingers. Next, using tall finger, play three notes and same with ring finger. After competence has been developed, add playing two fingers and three fingers. Coordinate a rhythmic pattern for playing plus various combinations of fingers. Entire hand, using all fingers, should also be manipulated with various activities.

C. Xylophone

Let the student examine the instrument. Initially, using one of the mallets, have the student listen while the instructor plays the scale from top to bottom. Let the student explore the instrument using the mallet. Have student reproduce different sounds as instructor plays instrument. Depending on ability of students, eventually let student create their own music with instrument or play along with a record.

D. Stethescope

Discuss the heart and what it does in simple terms to student. Let student listen to his/her own heart and any other individuals available. Have student run and then listen to his own heart.

E. Tupperware ball

This covers finger dexterity, shape discrimination and even number discrimination. Some of the basic shapes, such as square, circle, triangle may be introduced initially to help the student become proficient putting shapes in proper holes. Another method could be to have the student examine all the shapes and find a shape he/she can identify.

F. Finger plays

This helps the student with both identifying the fingers and finger manipulation. Thumbkin is one that identifies the fingers and manipulates the fingers. Some additional finger plays are in the files of the office.

G. Feel-it bag

Using a container that can be made so student can reach in and pull out object easily, the instructor should first put simple objects, ones that the student should contact during daily activity. Once competence has been achieved, progressively more complex objects should be put into the bag to be identified. A list is in the mobility office of objects going from simple to complex.

Objectives:
1. to develop integration between perceptual and motor functions
2. to develop kinesthetic and tactile activity
3. to aid the child to note perceptive cues
4. to aid the child to make discriminations
5. to develop the ability to identify objects by name
6. to promote language development

H. Button board - finger manipulation

The boards are down in kindergarten and first grade classrooms. Starting with large button, have the student button the board with no prior instruction. After observing have the instructor adapt the method so the buttons are buttons. Progress to smaller size button until the student is competent with normal size buttons. Snap board and shoe lace tying can also be introduced.

I. Parachute

Refer to Chuting the Works by Lois McCann

J. Zoo Parade - gross motor activity

1. Bear walk - walk on hand and feet in crawling on stomach - growl like a bear
2. Duck walk - bend knees and walk with hand on hips or in air

3. Craw fish - Walk on back with knees bent, feet on ground and hand on ground at waist level.

4. Crab walk - walk backwards, walk sideways with stepping in front then next step behind

5. Gazell - run in place then run forwards

K. Balance bean

Refer to file articles with activities on alance beam. In the article are 69 different activities on the beam.

XVIII. Orientation and Mobility Check Sheet

Student's Name ______________________________

A. Body Orientation

	Satisfactory	Teacher	Remarks
Head			
Eyes			
Ears			
Nose			
Mouth			
Lips			
Cheek			
Forehead			
Eyebrows			
Eyelashes			
Eyelids			
Chin			
Neck			
Hair			
Shoulders			
Arm			
Upper Arm			
Forearm			
Elbow			
Wrist			
Hands			
Fingers			

Knuckles			
Chest			
Stomach			
Waist			
Hips			
Leg			
Thigh			
Knee			
Shin			
Thigh			
Ankle			
Foot			
Heel			
Toes			

B. Posture

Head Carriage			
Foot Placement			
Stride			
Gait			
Hand/Arm Pos.			
Sitting			
Standing			

C. Basic Ability

Right			
Left			

Front	____________	_______	_______
Back	____________	_______	_______
Stop	____________	_______	_______
Wait	____________	_______	_______
Up	____________	_______	_______
Down	____________	_______	_______
High	____________	_______	_______
Low	____________	_______	_______
Big	____________	_______	_______
Little	____________	_______	_______
Small	____________	_______	_______
Tall	____________	_______	_______
Short	____________	_______	_______
Long	____________	_______	_______
Inside	____________	_______	_______
Outside	____________	_______	_______
Near	____________	_______	_______
Far	____________	_______	_______
Toward	____________	_______	_______
Away	____________	_______	_______
Rough	____________	_______	_______
Smooth	____________	_______	_______
Hard	____________	_______	_______
Soft	____________	_______	_______
Hot	____________	_______	_______

Cold			
Wide			
Narrow			
Heavy			
Light			
Liquid			
Solid			

D. Physical Skills

Stoop			
Kneel			
Jump			
Run			
Skip			
Hop			
Climb			
March			
Stretch			

E. Sound Identification

Bell			
Fire signal			
Burner			
Teacher's voice			
Classmate's voice			
Traffic sounds			
Car			
Truck			

	Satisfactory	Teacher	Remarks
Bus			
Fan			
Mower			
Water running			
Door closing			
Air conditioner			

F. Sound Identification

Shows ability to locate and move toward sound with minimum difficulty			
Shows ability to recall directions and repeat orientation clues			
Uses proper technique of using arm as bumper			
Uses proper technique to pick up objects			

G. Olfactory Ability

1. Identify

Coffee			
Tea			
Cocoa			
Cinnamon			
Vinegar			
Detergent			
Onion			

2. Identify

Bath soap			

XIX. Test Evaluations

A. BODY IMAGE OF BLIND CHILDREN: SCREENING TEST

Note: This test was developed by Bryant J. Cratty and Theressa A. Sams and is found in a report published by the American Foundation for the Blind which is entitled "The Body Image of Blind Children." The complete text of this report is on file in the mobility office.

STUDENT'S NAME ____________________ DATE TESTED ___________

AGE ___________ ACADEMIC LEVEL __________ SEX ___________

BRAILLE ________ LARGE PRINT _____________ RESIDENTIAL _____

DAY ___________

TESTED BY ____

SUMMARY OF SCORES:

ITEMS CORRECT ON PART I ______________

ITEMS CORRECT ON PART II ______________

ITEMS CORRECT ON PART III ______________

ITEMS CORRECT ON PART IV ______________

ITEMS CORRECT ON PART V ______________

TOTAL ITEMS CORRECT ON ALL PARTS ____________

BODY IMAGE OF BLIND CHILDREN

"Screening Test"

(Cratty and Sams)

I. BODY PLANES

1: Identification of Body Planes (Child Standing)
   a. Touch the top of your head ______
   b. Touch the bottom of your foot ______
   c. Touch the side of your body ______
   d. Touch the front of your body (or "stomach") ______
   e. Touch your back ______

2. Body Planes in Relation to External, Horizontal, and Vertical Surfaces (Child is lying/standing on a mat)
   a. Lie down on the mat so that the side of your body is touching the mat ______
   b. Now move so that your stomach or the front of your body is touching the mat ______
   c. Now move so that your back is touching the mat ______
   d. Here touch the wall with your hand, now move so that your side is touching the wall ______
   e. Here touch the wall with your hand, now move so that your back is touching the wall ______

3. Objects in Relation to Body Planes (Child is seated in a chair with a box)
   a. Place the box so that it touches your side ______
   b. Place the box so that it touches your front (or your stomach) ______
   c. Place the box so that it touches your back ______
   d. Place the box so that it touches the top of your head ______
   e. Place the box so that it touches the bottom of your foot ______

II. BODY PARTS

4. Body Part Identification: Simple (Child is seated in a chair)
   a. Touch your arm ______
   b. Touch your hand ______
   c. Touch your leg ______
   d. Touch your elbow ______
   e. Touch your knee ______

5. Parts of the Face (Child is seated in a chair)
   a. Touch your ear ______
   b. Touch your nose ______
   c. Touch your mouth ______
   d. Touch your eye ______
   e. Touch your cheek ______

6. Parts of the Body: Complex (Limb Parts) (Child is seated in a chair)
   a. Touch your wrist ______
   b. Touch your thigh ______
   c. Touch your forearm ______
   d. Touch your upper arm ______
   e. Touch your shoulder ______

7. Parts of the Body (Hand-Fingers) Child is seated in a chair)
   a. Hold up your thumb ______
   b. Hold up your (first) pointer finger ______
   c. Hold up your little (pinkie) finger ______
   d. Hold up your big (middle) finger ______
   e. Hold up your ring finger ______

III. BODY MOVEMENTS

8. Movements of the Body: Trunk Movement while fixed (Child is standing)
   a. Bend your body slowly backwards (or away) from me ... stop ______
   b. Bend your body slowly forward (or toward the front) toward me ... stop ______
   c. Bend your body slowly to the side ... stop ______
   d. Bend your knees and slowly squat down ... stop ______
   e. Rise upon your toes ... stop ______

9. Gross movements in Relation to Body Planes (Child is standing)
   a. Walk forward toward me ... stop ______
   b. Walk backwards away from me ... stop ______
   c. Jump up ... stop ______
   d. Move your body to the side by stepping sideways ... stop ______
   e. Move sideways to the other side ... stop ______

10. Limb Movements (Child is standing/lying on a mat)
    While standing:
    a. Bend one arm at the elbow ______
    b. Lift one arm high in the air ______
    While in a back-lying position:
    c. Bend one knee ______
    d. Bend one arm ______
    e. Straighten your arm ______

IV. LATERALITY

11. Laterality of Body: Simple Directions (Child is seated in a chair)
    - a. Touch your right knee ______
    - b. Touch your left arm ______
    - c. Touch your right leg ______
    - d. Bend over slowly and touch your left foot ______
    - e. Touch your left ear ______

12. Laterality in relation to objects (Child is seated in a chair with a box)
    - a. Place the box so that it touches your right side ______
    - b. Place the box so that it touches your right knee ______
    - c. Hold the box in your left hand ______
    - d. Bend down slowly and place the box so that it touches your right foot ______
    - e. Hold the box in your right hand ______

13. Laterality of Body: Complex Directions (Child is seated in a chair)
    - a. With your left hand touch your right hand ______
    - b. With your right hand touch your left knee ______
    - c. With your left hand touch your right ear ______
    - d. With your right hand touch your left elbow ______
    - e. With your left hand touch your right wrist ______

V. DIRECTIONALITY

14. Directionality in other people (child is standing) Tester is seated facing child. The child's hands are placed on the tester's body parts.
    - a. Tap my left shoulder ______
    - b. Tap my left hand ______
    - c. Tap my right side ______
    - d. Tap my right ear ______
    - e. Tap the left side of my neck ______

15. The left and right of objects (Child is seated in a chair with a box)
    - a. Touch the right side of the box ______
    - b. Touch the left side of the box ______
    - c. With your left hand touch the right side of the box ______
    - d. With your right hand touch the left side of the box ______
    - e. With your left hand touch the left side of the box ______

16. Laterality of others' movements (Child is standing)
    - a. (Tester is seated with the child. The child's hands are placed on the tester's shoulder). ______
      Am I bending to my right or left? (Bend right) ______
    - b. (Tester is seated with the child. Child's hands are placed on the tester's shoulder).
      Am I bending to the right or left? (Bend left) ______

c. (Tester is seated with his back to the child. The child's hands are placed on the tester's shoulder).
Am I bending to my right or left? (Bend left) _____

d. (Tester is seated with his back to child. Child's hands are placed on the tester's shoulder)._____
Am I bending to my right or left? (Bend right) _____

e. (Tester is standing with his front to the child. Child stands still).
Am I moving to my right or left? (Move left) _____

BODY IMAGE OF BLIND CHILDREN

SCREENING TEST

STUDENT'S NAME	ACADEMIC LEVEL	BRAILLE OR L. PRINT	RESIDENT OR DAY	I: BODY PLANES	II: BODY PARTS	III: BODY MOVEMENTS	IV: LATEALITY	V: DIRECTIONALITY	TOTAL SCORE

B. TEST OF BASIC CONCEPTS RELATED TO ORIENTATION AND MOBILITY

Note: This test was developed by Mr. Everett Hill of the Missouri School for the Blind. A test manual with complete testing instructions is on file in the Mobility Office.

STUDENT'S NAME ______________________________ DATE TESTED _______

AGE ____________ ACADEMIC LEVEL ___________ SEX ________________

BRAILLE ________ LARGE PRINT ______________ RESIDENTIAL ________

DAY ____________

SUMMARY OF SCORES:

Number of items receiving a score of two _______________

Number of items receiving a score of one _______________

Number of items receiving a score of zero _______________

Total number of POINTS scored _______________

PART ONE

ITEM	SCORE
1. Place your hand on your face.	2 ___ 1 ___ 0 ___
2. Touch the front of your leg.	2 ___ 1 ___ 0 ___
3. Place your hand in front of your face.	2 ___ 1 ___ 0 ___
4. Touch your back.	2 ___ 1 ___ 0 ___
5. Put your hand behind your leg.	2 ___ 1 ___ 0 ___
6. Put your hand on the back of your neck.	2 ___ 1 ___ 0 ___
7. Raise your right hand.	2 ___ 1 ___ 0 ___
8. Touch your left leg.	2 ___ 1 ___ 0 ___
9. Touch the top of your head.	2 ___ 1 ___ 0 ___
10. Make your heels higher than your toes.	2 ___ 1 ___ 0 ___
11. Put your feet above your head.	2 ___ 1 ___ 0 ___
12. Put your finger inside your mouth.	2 ___ 1 ___ 0 ___
13. Lay down on the floor.	2 ___ 1 ___ 0 ___
14. Place your hands under your head.	2 ___ 1 ___ 0 ___
15. Place your hands underneath your legs.	2 ___ 1 ___ 0 ___
16. Touch your nose with the middle finger of your hand.	2 ___ 1 ___ 0 ___
17. Turn your feet out.	2 ___ 1 ___ 0 ___
18. Put your head between your legs.	2 ___ 1 ___ 0 ___
19. Touch the center of your face.	2 ___ 1 ___ 0 ___
20. Place your head closer to your legs.	2 ___ 1 ___ 0 ___
21. Place your right hand near your left leg.	2 ___ 1 ___ 0 ___
22. Now place your right hand farther away from your left leg.	2 ___ 1 ___ 0 ___
23. Move your arms so that they are parallel to one another.	2 ___ 1 ___ 0 ___
24. Put your right hand across from your right ear.	2 ___ 1 ___ 0 ___
25. Put your thumbs so that they are perpendicular to each other.	2 ___ 1 ___ 0 ___
26. If you are facing South touch a part of your body that is nearer to North.	2 ___ 1 ___ 0 ___
27. If you are facing North raise the hand that is closer to West.	2 ___ 1 ___ 0 ___

PART TWO

ITEM SCORE

1. Place yourself in front of the chair. 2 ____ 1 ____ 0 ____
2. Turn yourself, if necessary, so your whole body is facing the chair. 2 ____ 1 ____ 0 ____
3. Put your hands in front of the chair. 2 ____ 1 ____ 0 ____
4. Put your back against the desk. 2 ____ 1 ____ 0 ____
5. Put the chair behind you. 2 ____ 1 ____ 0 ____
6. Put yourself on top of the seat of the chair. 2 ____ 1 ____ 0 ____
7. Place the chair over your head. 2 ____ 1 ____ 0 ____
8. Put your feet up on the desk. 2 ____ 1 ____ 0 ____
9. Place yourself to the left of the chair. 2 ____ 1 ____ 0 ____
10. Put the chair so it is on your left. 2 ____ 1 ____ 0 ____
11. Place this block inside the desk. 2 ____ 1 ____ 0 ____
12. Take the block out of the desk. 2 ____ 1 ____ 0 ____
13. Move yourself so the chair is below you. 2 ____ 1 ____ 0 ____
14. Put your head under the chair. 2 ____ 1 ____ 0 ____
15. Touch the chair with the bottom of your feet. 2 ____ 1 ____ 0 ____
16. Put yourself between the desk and the chair. 2 ____ 1 ____ 0 ____
17. Place this block in the center of the desk top. 2 ____ 1 ____ 0 ____
18. Put yourself next to the chair. 2 ____ 1 ____ 0 ____
19. Put yourself beside the desk. 2 ____ 1 ____ 0 ____
20. Move the chair or yourself so the chair is nearer to you than the desk. 2 ____ 1 ____ 0 ____
21. Show me which two sides of the desk are farthest away from each other. 2 ____ 1 ____ 0 ____
22. Walk three steps parallel to the desk. 2 ____ 1 ____ 0 ____
23. Show me two sides of the desk that are opposite each other. 2 ____ 1 ____ 0 ____
24. Walk perpendicular to a side of the desk. 2 ____ 1 ____ 0 ____
25. This is the north side of the desk, show me the east side of the desk. 2 ____ 1 ____ 0 ____

PART THREE

ITEMS	SCORE
1. Put the block in front of the cup.	2 ___ 1 ___ 0 ___
2. Put the stick in back of the block.	2 ___ 1 ___ 0 ___
3. Put the block behind the cup.	2 ___ 1 ___ 0 ___
4. Put the stick to the left of the block.	2 ___ 1 ___ 0 ___
5. Put the block to the right of the cup.	2 ___ 1 ___ 0 ___
6. Put the cup on top of the block.	2 ___ 1 ___ 0 ___
7. Put the stick above the cup.	2 ___ 1 ___ 0 ___
8. Put the stick under the block and the cup.	2 ___ 1 ___ 0 ___
9. Turn the bottom of the cup up.	2 ___ 1 ___ 0 ___
10. Put the block inside the cup.	2 ___ 1 ___ 0 ___
11. Put the block outside of the cup.	2 ___ 1 ___ 0 ___
12. Put the stick inside the block.	2 ___ 1 ___ 0 ___
13. Put the stick between the block and the cup.	2 ___ 1 ___ 0 ___
14. Put the block in the middle of the stick and the cup.	2 ___ 1 ___ 0 ___
15. Put the cup in the center of the desk.	2 ___ 1 ___ 0 ___
16. Put the stick close to the cup and the block far away from the cup.	2 ___ 1 ___ 0 ___
17. Now put the stick beside the cup.	2 ___ 1 ___ 0 ___
18. Place the sticks so they are parallel to one another.	2 ___ 1 ___ 0 ___
19. Place the sticks so they are perpendicular to one another.	2 ___ 1 ___ 0 ___
20. Place the sticks so they are across from one another.	2 ___ 1 ___ 0 ___
21. Place the sticks so they are opposite one another.	2 ___ 1 ___ 0 ___
22. If you are facing North, point the pencil South.	2 ___ 1 ___ 0 ___
23. If you are facing South, point the pencil West.	2 ___ 1 ___ 0 ___

TEST OF BASIC CONCEPTS RELATED TO ORIENTATION AND MOBILITY

Student's Name	Academic Level	Braille or large print	Residential or Day	PART I			PART II			PART III			Points on Part I	Points on Part II	Points on Part III	Total Points on all parts	Rank in group tested	Date Tested
				Number of Responses Scored			Number of Responses Scored			Number of Responses Scored								
				2	1	0	2	1	0	2	1	0						

CHAPTER FIVE

PROTECTIVE TECHNIQUE

PROTECTIVE TECHNIQUE

Introduction

The self protection portion of the notebook is applicable when students are taken off campus. The reason is that students, after attending the Academy, have become familiar with this environment. For this reason they do not see the need to utilize protective techniques. By taking them off campus to an unfamiliar environment the techniques become functional. They become dependent on the upper hand and forearm to travel safely and efficiently in the unfamiliar buildings. It also proves to the student that they can travel independently in an unfamiliar building. This self confidence is constantly tested by changing buildings after the student has satisfactorily traveled in a building by means of a dropoff.

Macon has a variety of public buildings such as the Post Office on Washington Street, Science Building at Mercer University on College Street, City Hall on Poplar Street, and Courthouse on Mulberry Street. They are listed in order of difficulty, developmentally. The post office is a building with a main hallway that runs north and south. It has three floors and a basement that can be used for lessons. Orientation skills are taught in the post office section of the building because of the obvious landmarks and simple two long and two short wall layout. The science building at Mercer has as its main characteristic four (4) hallways that may be designated as north, south, east, or west hallways. Also it has three different entrances that makes learning a specific landmark a necessity to orient self to building.

The first floor is unique because it is not like the other three similar floors. The City Hall is unique because each floor (3 floors) has a different layout. The courthouse also has three floors, each with a different layout. Locating the stairs on the second floor is difficult. This building is the last the student would work in the self-protective unit.

I. Upper Hand and Forearm

Purpose: To enable the student to detect vertical objects which may be encountered by the upper region of the body.

A. Basic Method - Procedure

1. The arm is positioned parallel to the floor at shoulder level.

2. The forearm is flexed at the elbow, forming an obtuse angle of approximately 120 degrees.

B. General Observations

1. This skill may be referred to as upper body, cross body, or arm across the chest technique.

2. The student may slow his pace when objects are anticipated.

3. This technique may be combined with lower hand and forearm, trailing, and certain cane skills to provide maximum protection in certain situations.

4. The upper hand and forearm may appear conspicuous and be tiring to the student, and should therefore be used selectively.

5. The student may be able to carry books in a modified upper hand and forearm position as a modification of this technique.

6. When paralleling a wall, the arm opposite the wall is generally used in the upper hand and forearm technique.

7. Teaching method:
    a. extend the arm to shoulder heights as if to shake hands at this level;
    b. bring the hand to the opposite shoulder;
    c. extend the forearm an appropriate distance, forming an obtuse angle from the body;
    d. rotate the palm outward, keeping the fingers extended, close together and relaxed.

8. There is a tendency for students to tense up when they approach an object. It is important for them to remember that it is vital that the hand and forearm be relaxed to best absorb shock.

9. For this skill, good body concept and kinesthetic awareness are necessary.

10. The instructor may begin teaching this skill by having the student position his arm, bring it down and repeat several times.

11. The instructor should view the student from different angles to check various aspects of the arm position.

12. The instructor may wish to introduce straight line of travel techniques in conjunction with this skill.

II. Lower Hand and Forearm

Purpose: To enable the student to locate and protect himself from objects at waist level.

A. Basic Method - Procedure

1. The student's upper arm, forearm, wrist and fingers are extended.

2. The hand is positioned downward at the body midline, approximately six to eight inches away from the body.

3. The palm is rotated inward and the fingers remain close together and relaxed.

B. General Observations

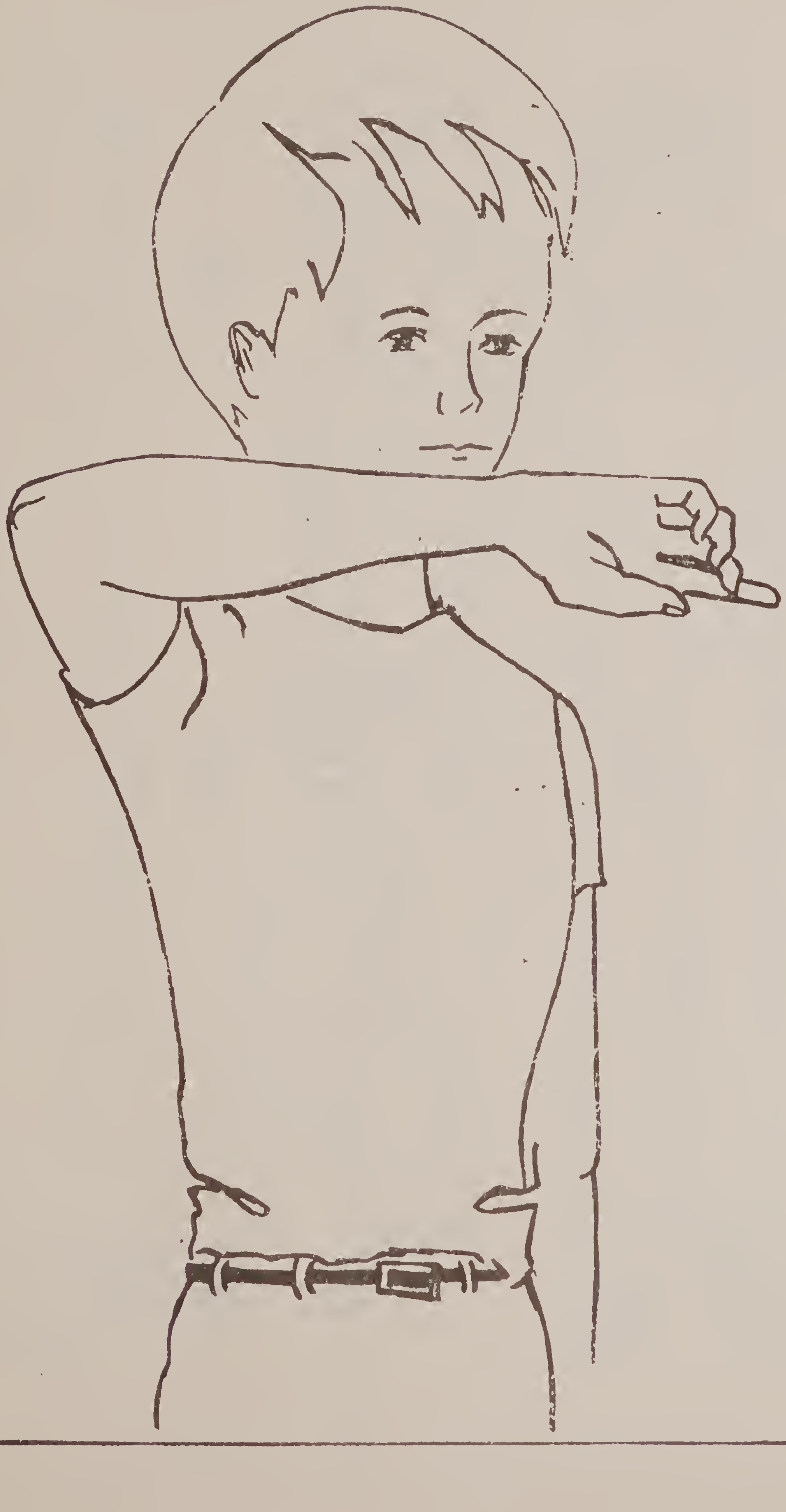
1. This technique may be used in combination with upper hand and forearm or trailing.

2. This technique is natural for locating chairs, doorknobs, and other objects at or just below waist level.

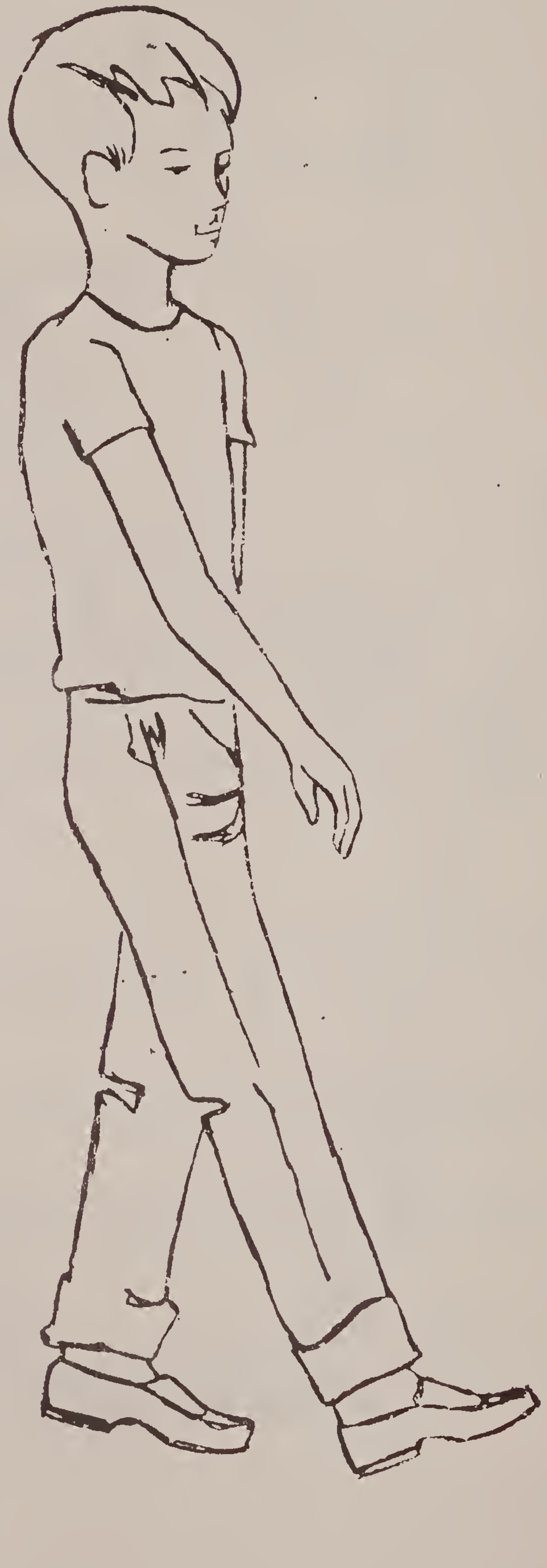
3. This technique should be used selectively, when traveling in a room or when the student suspects that there are objects below chest level.

4. A common fault is to pull one shoulder forward, which may alter the student's alignment.

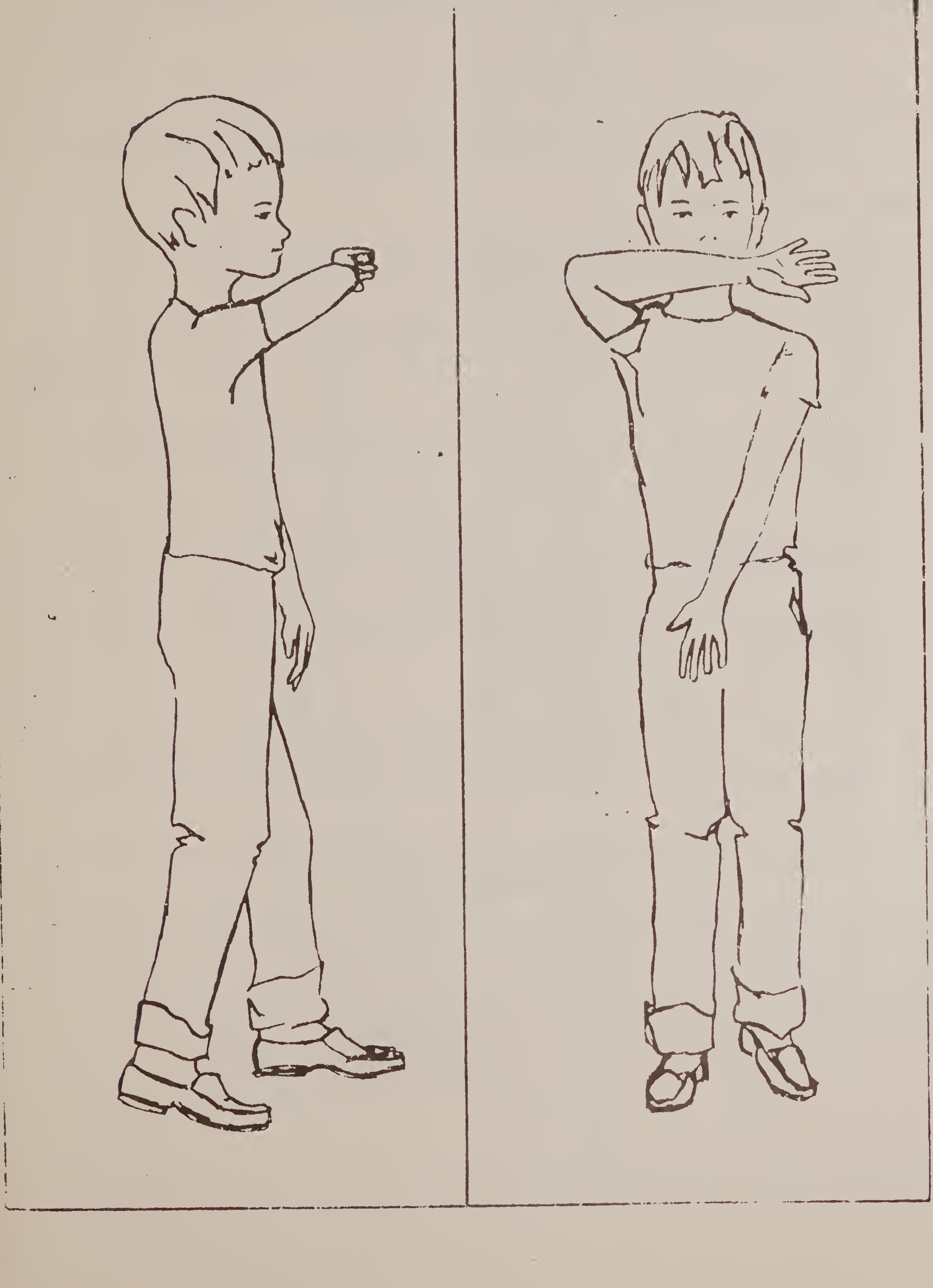
UPPER HAND AND FOREARM TECHNIQUE



LOWER HAND AND FOREARM TECHNIQUE



ER AND LOWER HAND AND FOREARM TECHNIQUES EMPLOYED TOGETHER



III. Trailing

Purpose: To facilitate the student's maintenance of a straight line of travel in a desired direction.

To enable the student to locate a specific objective.

To enable the student to remain cognizant of his position in space by keeping in constant contact with the environment.

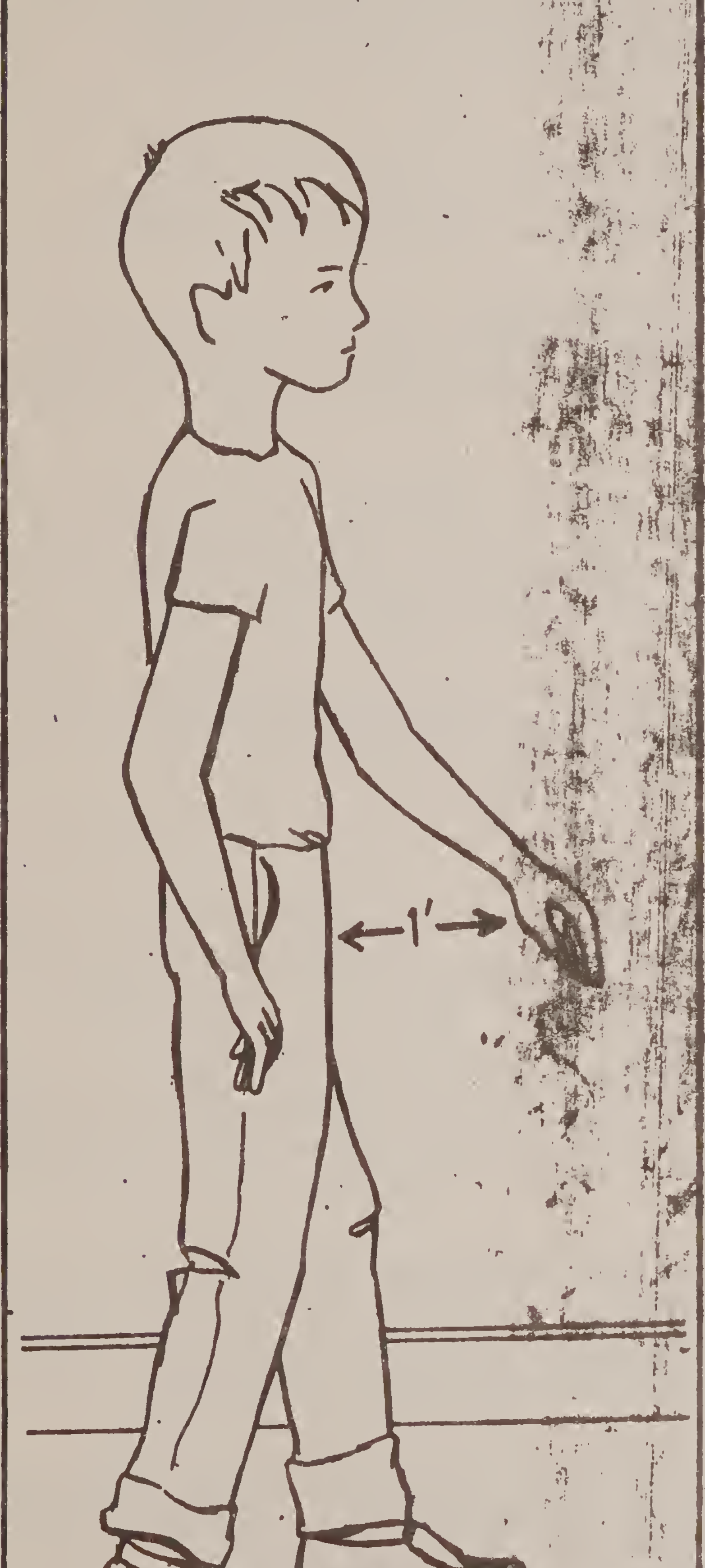
A. Basic Method - Procedure

1. Facing the desired line of travel, the student is positioned parallel to and near the object to be trailed.
2. The arm nearest the object is extended downward and forward at an approximate angle of 45 degrees in the anterior - posterior plane.
3. The palm is cupped slightly with the back of the hand angled toward the wall and the fingers are slightly flexed, kept close together, and relaxed.
4. Contact with the object is established and maintained with the ring and little fingers.
5. Light contact is maintained while the student proceeds to the objective.

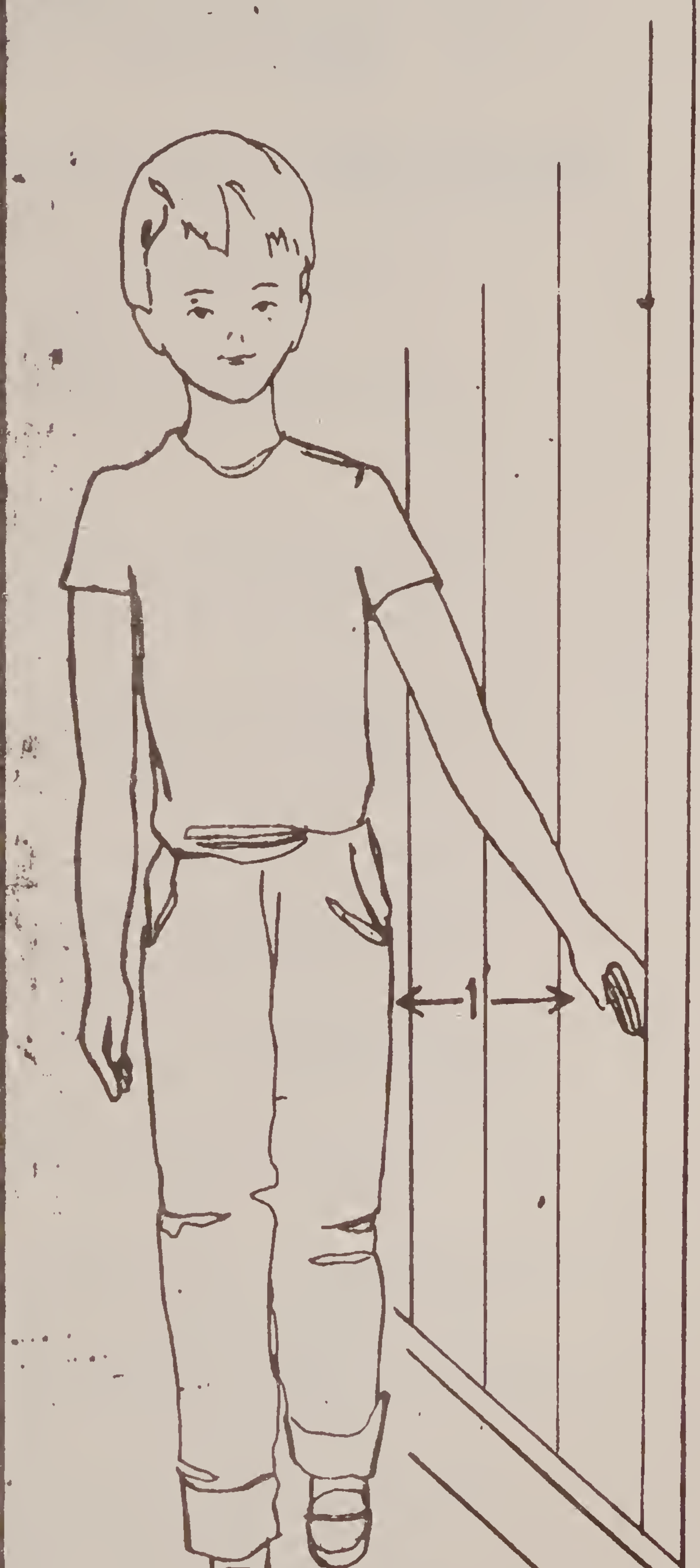
B. General Observations

1. In hallways and corridors, trailing should be done along the right hand side so as to move with the normal flow of pedestrian traffic.
2. For greater protection, upper hand and forearm or lower hand and forearm may be employed while trailing.
3. Desks and table tops should be trailed along the side to avoid disturbing objects which may be on the desk or table top.
4. A common fault when trailing walls is to veer away from the trailing surface.

SIDE VIEW TRAILING WALL



FRONT VIEW TRAILING WALL



IV. Traversing Open Doorways

Purpose: To enable the student to negotiate an open area efficiently while maintaining his desired line of travel.

A. Basic Method - Procedure

1. The student detects the opening and maintains extension of his trailing arm.
2. The student continues in a straight line of travel until he contacts the opposite side and resumes proper trailing.

B. Method #2 - Procedure

1. Upon detection of the opening by trailing, the student discontinues arm extension, simultaneously assuming upper hand and forearm with his opposite arm.
2. The student turns his upper body slightly toward the opening and walks across until contacting the opposite side and resumes trailing.

C. General Observations

1. Upon detecting the opening through trailing, the student may wish to discontinue arm extension, estimate the width of the opening while traversing the doorway, and resume proper trailing.
2. Projection of a straight line may be facilitated by taking a line of direction from the wall while trailing, to expedite crossing of the opening.
3. In congested doorways, the student may discontinue arm extension, simultaneously assuming upper hand and forearm with the opposite arm, and may then estimate the width of the opening while moving in a semi-circular pattern to avoid the congestion. The student resumes proper trailing after traversing the doorway.
4. The student should be aware of pedestrian traffic entering and/or exiting an opening and should pause before traversing the opening until such traffic diminishes.
5. Trailing too heavily may result in a tendency to veer into an opening once it is encountered.

6. The student may receive auditory and/or temperature clues as an indication that he is at an opening.

7. Older persons and students with orthopedic problems may prefer the second method since it provides greater security.

8. If the student does not contact the opposite door jamb within two steps using the basic method, he should implement method #2.

V. Direction Taking

Purpose: To enable the student to establish a straight line of travel.

A. Perpendicular Alignment - Procedure

1. The student positions two or more symmetrical body parts against an object.

2. The student projects a line of travel in a straight line drawn from his midline, running perpendicular from the object used for alignment.

B. Parallel Alignment - Procedure

1. The student positions himself laterally to an object or sound.

2. The student projects a line of travel in a straight line drawn from his midline, running parallel with the object or sound used for alignment.

C. General Observations

1. Perpendicular alignment may be referred to as "squaring off."

2. Promotion of a straight line of travel facilitates safety in that the student may avoid veering into potential hazards.

3. For parallel direction taking, the student may trail the object for a short length to assure parallel alignment.

4. In utilizing alignment procedures for an open doorway the student may align his heels against the door threshhold or his hands against the sides of the doorway.

5. Proper alignment procedures facilitate systematic search patterns and the establishment of object-to-object relationships.

VI. Search Patterns

Purpose: To enable the student to acquaint himself systematically with a particular environment.

A. Perimeter Method - Procedure

1. The student establishes a focal point.

2. Through a series of movements of body parts or the entire body, the student systematically trails the perimeter of the area, noting the position and relationship of objects encountered.

3. The student returns to the focal point.

B. Gridline Method - Procedure

1. Through a series of movements of body parts or the entire body the student trails to a corner of the area that he intends to explore.

2. The student, through a series of movements of body parts or the entire body, then moves in a straight line to the opposite side of the perimeter, crossing the area within the perimeter.

3. The student trails this side a short distance.

4. The student returns in a straight line to the original side of the perimeter.

5. The student repeats procedures 2, 3, and 4 until the entire area has been explored.

C. General Observations

1. The content of the area may alter the student's straight line movements.

2. Upon completion of the perimeter method, the student may employ an ever increasing or decreasing pattern of movement parallel to the original line of movement as a means of exploring the area or object in greater detail.

3. The gridline method aids the student in establishing object-to-object relationships.

4. Upon completion of the perimeter method, the student may then employ the gridline method as a means of exploring the area or object in greater detail. In this case it is important to determine the relationship between the focal point used in the perimeter method and the corner used in the gridline method.

5. The area or object may be easier to explore if it is divided into units, especially along natural lines of division; one helpful way may be to divide the area into what appears to be a braille cell.

6. The student need only familiarize himself to the extent his usage of the object or area requires.

7. A teaching method may be to allow the student to explore an area prior to introducing search patterns, then question him on the contents as a means of stressing what was overlooked and the effectiveness of search patterns.

8. Search patterns may be used as a means of locating dropped objects.

9. When searching with the gridline method on a surface which might have objects, these precautions should be taken: table against wall -- trail towards wall only; circular table -- trail towards center in a spoke pattern; table not against wall -- trail only away from body. Light touch and slow movement are essential at all times.

10. Protective techniques should be used selectively with these skills.

11. Compass directions may be useful in performing these skills.

12. The student may return to the focal point at any time he becomes disoriented to reestablish orientation.

13. In some instances because of obstacles along the perimeter, it may be necessary for the student to trail around the object or to use an extended trailing arm.

14. Search patterns should be transferable in any environment.

VII. Dropped Objects (Special Lesson)

Purpose: The use of the dropped object technique provides the student with maximum safety and efficiency and facilitates a systematic search for objects.

A. Basic Method - Procedure

1. The student stops immediately after the object is dropped.
2. The student localizes on the sound of the object and faces in that direction.
3. The student walks toward the object, slightly underestimating its distance.
4. The student bends at the knees while employing upper body protection.
5. The student employs circular and/or gridline search patterns to locate the object.

B. General Observations

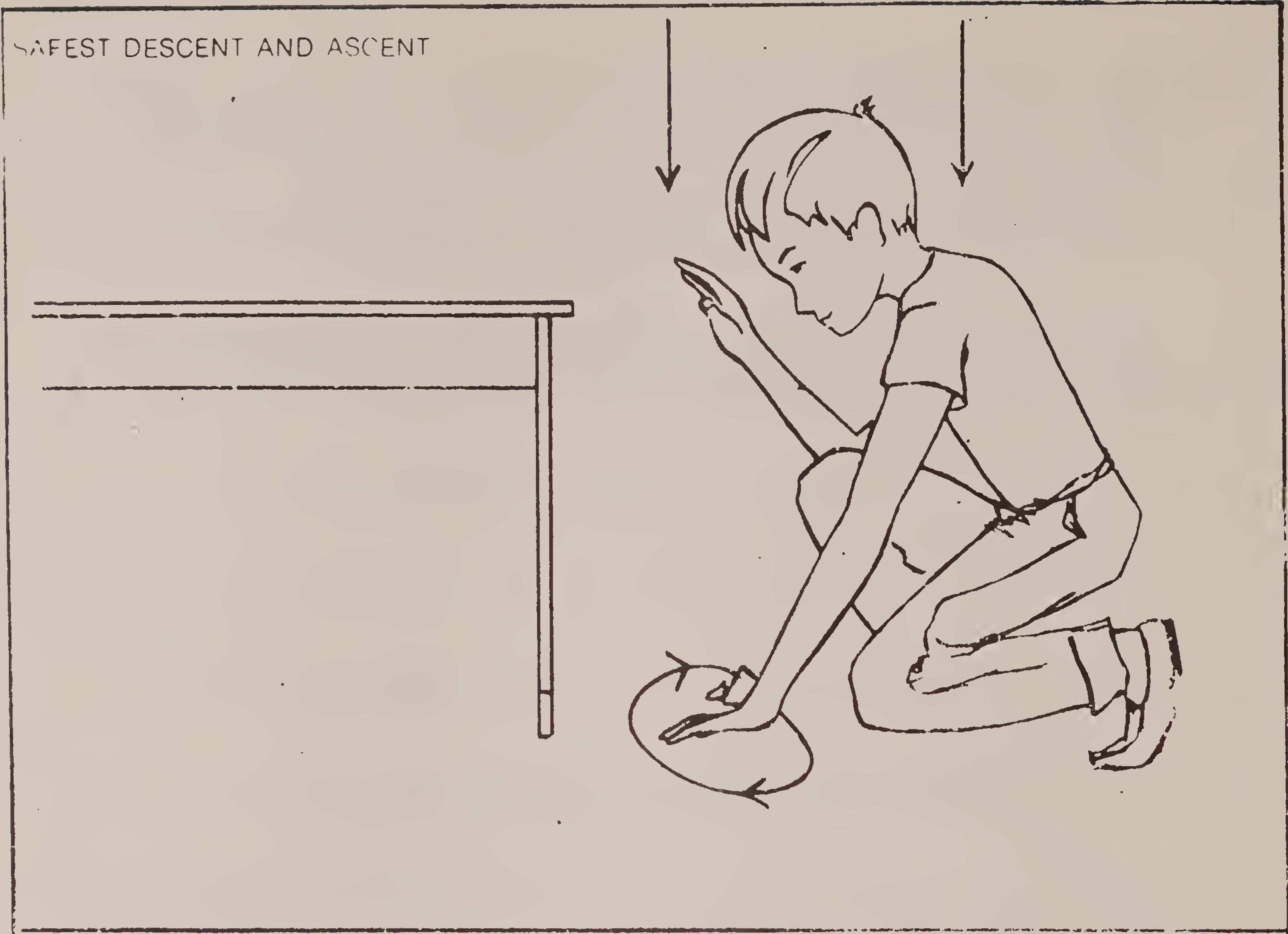
1. For searching on smooth surfaces, a flat palm should be employed to facilitate location of small objects such as coins.
2. Searching should be done slowly to avoid passing over the object or knocking it out of reach.
3. For teaching this skill, a variety of objects and surfaces should be used.
4. Initially, instructor should drop the objects to test the student's sound localization; after this the student should drop the objects himself to more closely simulate real-life situations.
5. It is vital that the student maintain his orientation while performing this task.
6. The instructor should begin by dropping the object in front of and fairly close to the student. He should then expand this skill by varying the distance and position of the dropped object in relation to the student, finally having the student drop the object while in travel.

7. When searching for a dropped object in the grass, the student should cup hand and use light contact with the fingertips while using a slow movement in his search pattern.

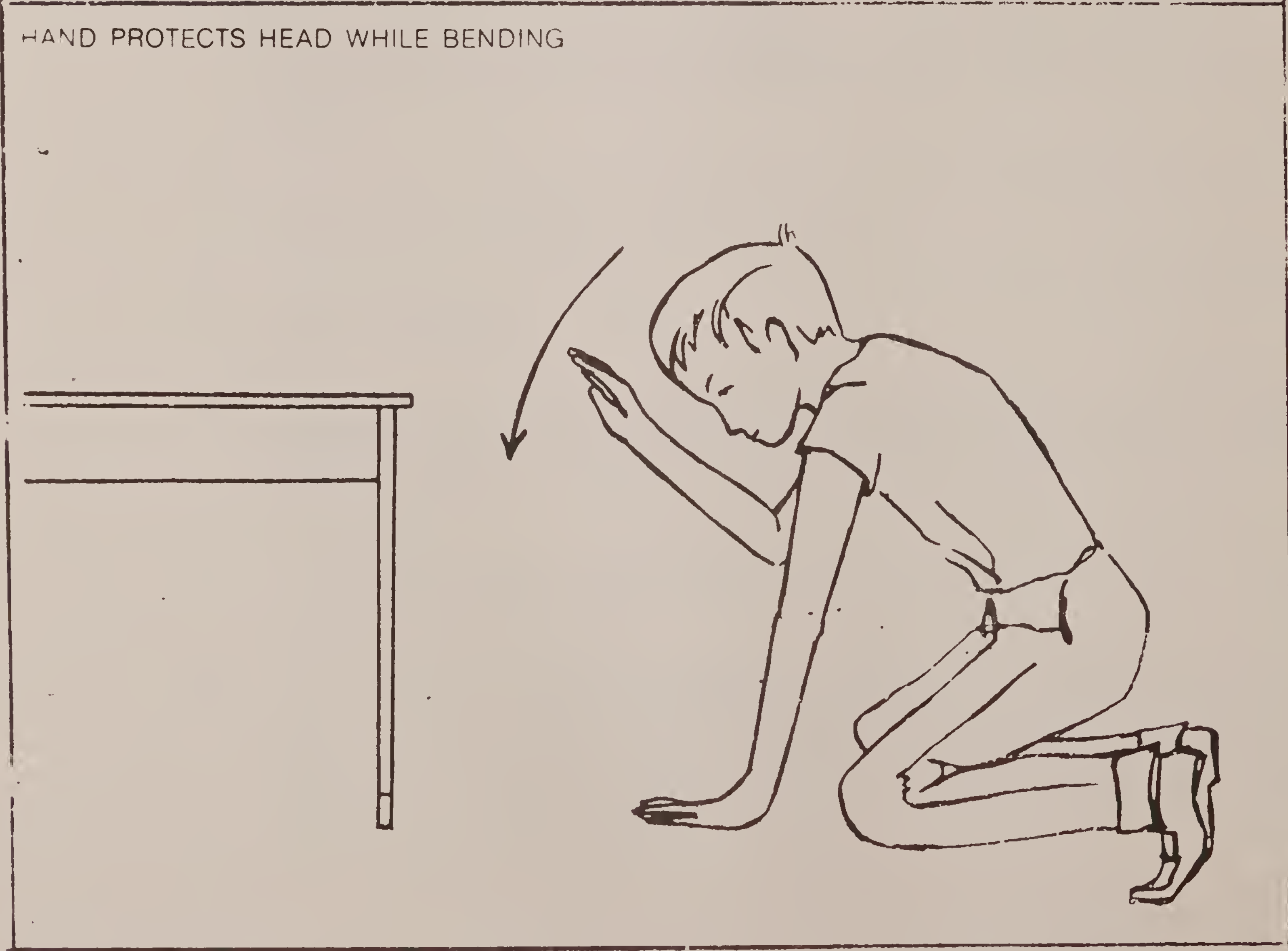
8. The instructor may use a table top to demonstrate this technique to students who have balance problems.

9. Student may use the cane for the location of dropped objects (e.g. student may employ a "fan" pattern, keeping the cane flat on the surface).

LOCATING DROPPED OBJECTS



SAFEST DESCENT AND ASCENT



HAND PROTECTS HEAD WHILE BENDING

VIII. Early Childhood Protective Technique Unit

In the Early Childhood Department totally blind and some low vision students have difficulty navigating in the classroom and halls. Many of these young students rely mostly on a sighted guide due to a fear of bumping into things when walking alone. They also develop poor posture habits that make them feel safer when traveling about. For this reason each year a unit consisting of ten lessons on using the Protective Technique is presented.

The Protective Technique (also referred to as Bumper) is an extension of one arm placed at shoulder level, bent at elbow at 120 degrees away from the body, palm facing away from body with thumb pointing downward and rest of finger relaxed and together. This technique is designed to protect the upper part of the body as they travel. The other arm is extended downward toward the ground at body midline held six inches away from crouch. Palm facing the body with finger extended and relaxed - this technique is used to protect the students from objects in the lower plain.

This unit has been given to students in the first three levels in the primary department, but it is not limited to that area. Included in protective unit is a unit on Sighted Guide. Often in primary departments younger sighted students are required to guide totally blind students. During the unit the techniques of guiding properly are given. Proper techniques are included in the Sighted Guide section of the book.

A. 1. Body Awareness

    a. identify body parts
    b. touch body parts

Resource: Hap Palmer Record

2. Concepts

    a. left and right hand
    b. opposites
    c. body midline

Resource: Hap Palmer Record

B. 1. Review Body Awareness

2. Review Concepts

3. Gross and Fine Motor Development

    a. walking and running
    b. shake various body parts

hands
wrists
elbows

arms
shoulders

C. 1. Review Body Awareness

2. Review Concepts

3. Review Gross and Fine Motor Development

4. Manipulation of Body Parts

    a. hand-spread and close finger, touch thumb to other four fingers thumb up or down
    b. wrist - bend and/or keep straight
    c. elbow - bend and/or straighten

D. 1. Review Manipulation of Body Parts

2. Introduce Protective Technique

    a. upper hand and forearm (bumper)
    b. bumper with both left and right hand

E. 1. Review Protective Technique

   2. Travel in gym using bumper

      a. walk a straight line to sound at opposite end of gym

      b. put up some obstacle as student walks in gym

   3. Introduce Lower Hand and Forearm

F. 1. Review Bumper

   2. Review Lower Arm and Forearm

   3. Visit every teacher that has contact with student

      a. student demonstrate bumper and lower arm

      b. student discuss when to use protective technique

G. 1. Review Protective Techniques

   2. Visit off campus facility

      a. Unfamiliarity will encourage use of protective technique

      b. party to reward hard work

H. 1. Review Protective Technique

   2. Private graduation from state

      a. student explain bumper and lower arm

      b. student explain proper time to use protective technique

I. Follow up

   1. Visit students in classroom

      a. give gold stars on forehead to student using protective technique at proper time

      b. after three weeks give surprise to student who earns most stars

   2. Send memo to entire staff - copy attached

Resources:

1. Record - Getting to Know Myself by Hap Palmer
2. Book - Concept Development for Visually Handicapped Children by William T. Lydon and M. Loretta McCraw

IX. Individual Student Check Sheet

Instructor ______________________ Student ______________

School Year ________________ Grade Level ________________

SELF-PROTECTIVE TECHNIQUES

SKILLS	Quarter Completed			COMMENTS
	1st Fall	2nd Winter	3rd Spring	
Upper hand and forearm				
Low hand and forearm				
Trailing				
Traversing open doorways				
Direction taking				
Search patterns				
Dropped objects				

CHAPTER SIX

SIGHTED GUIDE

SIGHTED GUIDE

Introduction

The sighted guide technique is often the initial area of orientation and mobility instruction. Blind students typically have rigid bodies. This rigidness is due to contant bumping into objects in their environment. The sighted guide can become the beginning of controlling his/her environment. The visually handicapped person can become an active partner in the unit (guide and visually handicapped person). Being relaxed with body language and gaining self confidence by learning proper procedures can be the result of sighted guide training.

Sighted guide is best initiated in a familiar environment to the visually handicapped person. As proper procedures have been comprehended the environment can become unfamiliar. The student will begin feeling as an active, not passive, individual in his environment.

The sighted guide technique is used to: (1) Travel safely and efficiently with a sighted person within different environments and under varying conditions. (2) Take an active role while traveling, stressing naturalness through the use of nonverbal cues. (3) Develop skills and preparation for independent travel in such areas as kinesthetic awareness, graceful movement, and orientation. (4) Interpret and utilize guide-initiated cues and information from the environment. (5) Have a sufficient knowledge of the role of the sighted guide so that he may instruct the individual whom he decides to utilize as a sighted guide in any situation, and creates a positive public image.

I. Basic Sighted Guide

Purpose: To enable the student to utilize a sighted guide safely and efficiently.

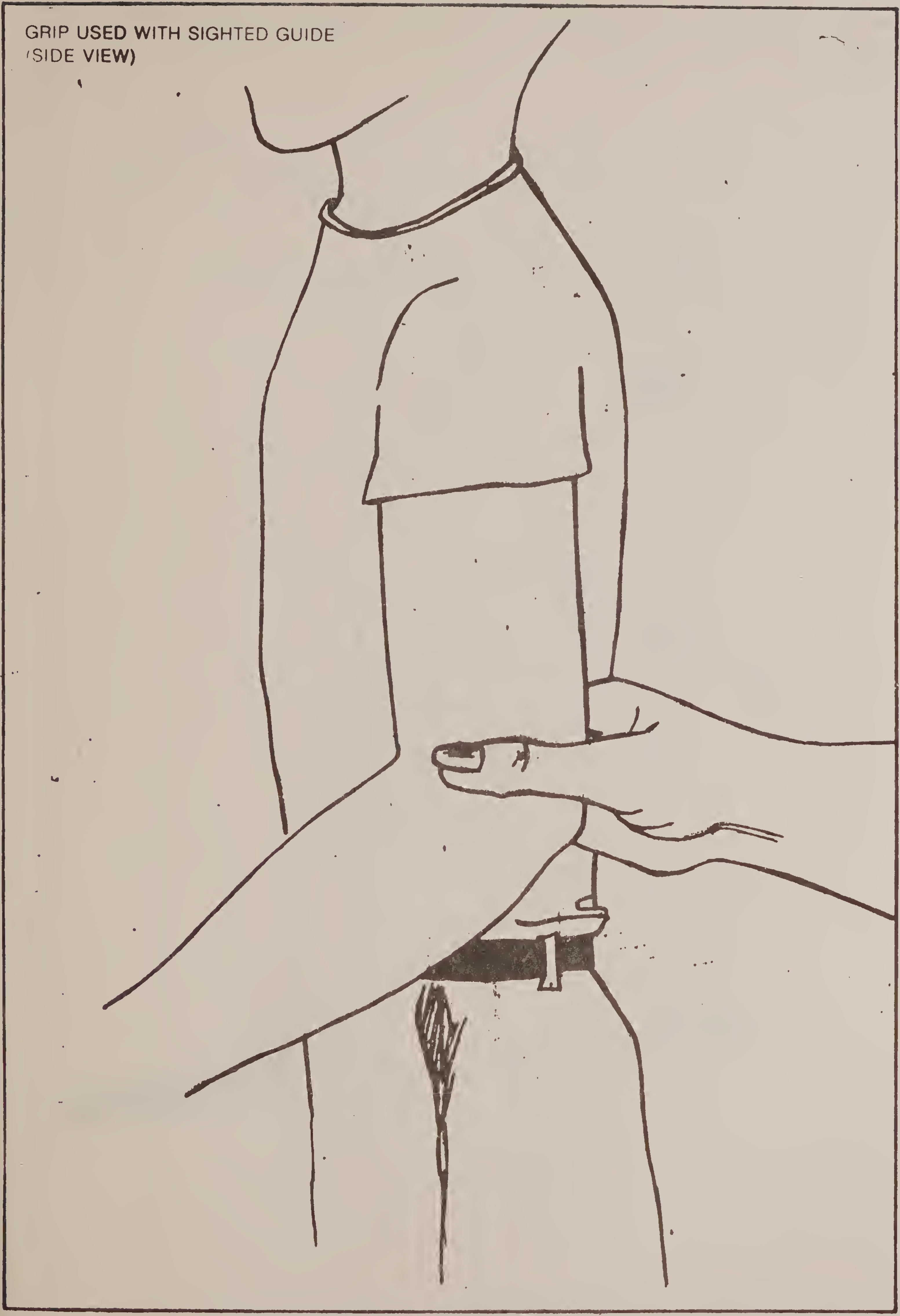
To provide the student with a basis for subsequent guiding skills.

A. Basic Method - Procedure

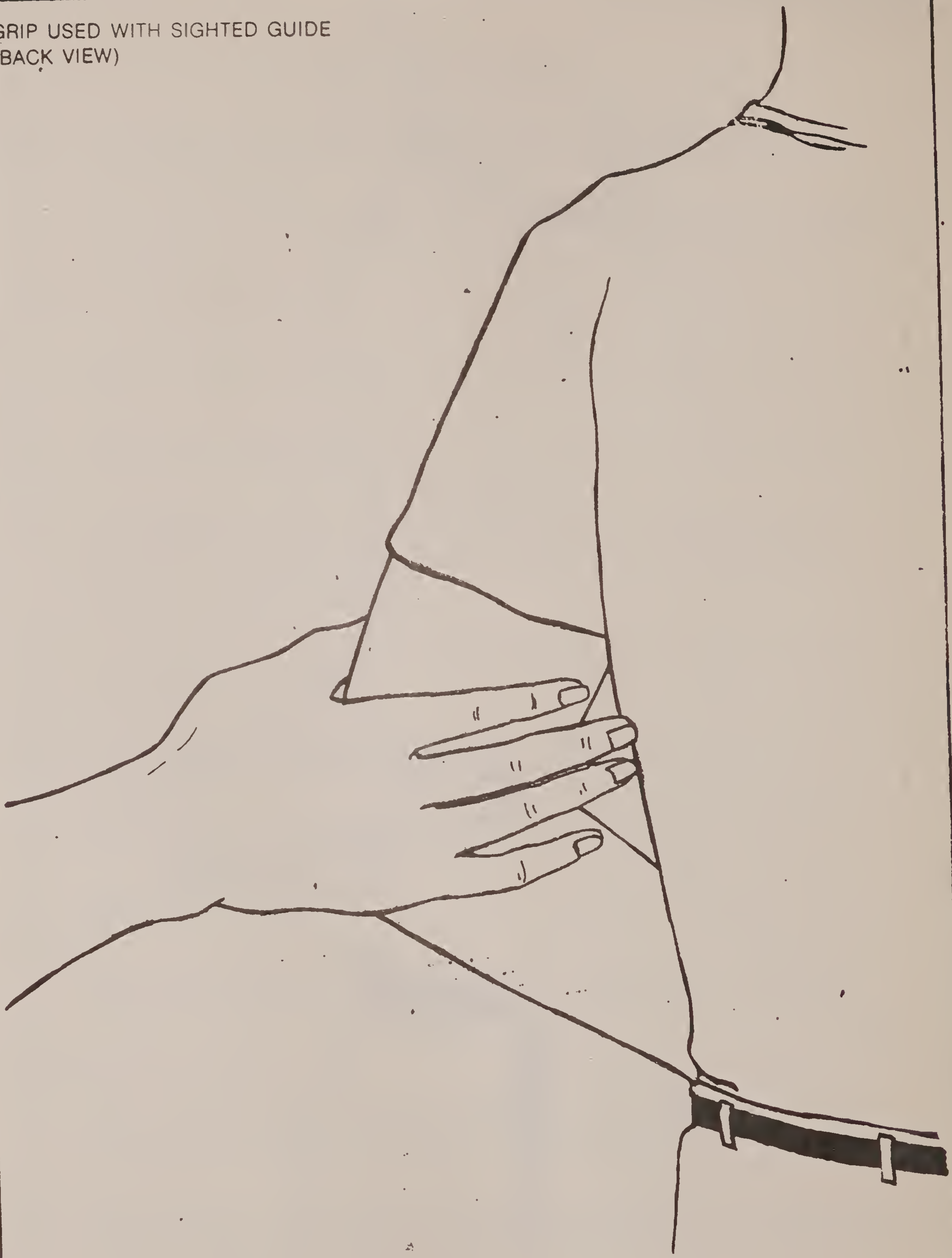
1. With the back of his hand the guide contacts the student's arm.
2. The student moves his hand up the guide's arm into position just above the elbow.
3. The student's thumb is positioned just above the elbow on the lateral side of the guide's arm with the remaining four fingers on the medial side, in a grip that is secure, yet comfortable for the guide.
4. The student's upper arm is positioned parallel and close to the side of his body.
5. The student's upper and lower arm form an angle of approximately 90 degrees with the forearm pointing forward.
6. The shoulder of the student's grip arm is directly behind the shoulder of the guide's gripped arm.
7. The student remains approximately one half step behind the guide.
8. The guide outwardly rotates his arm, simultaneously turning toward the student, and the student releases his grip.

B. General Observations

1. With a familiar guide and in unobstructed areas, the student may position himself alongside the guide for conversational purposes.
2. The guide sets the pace according to the needs and capabilities of the student. Nonverbal communication is facilitated if the student and guide are in step.



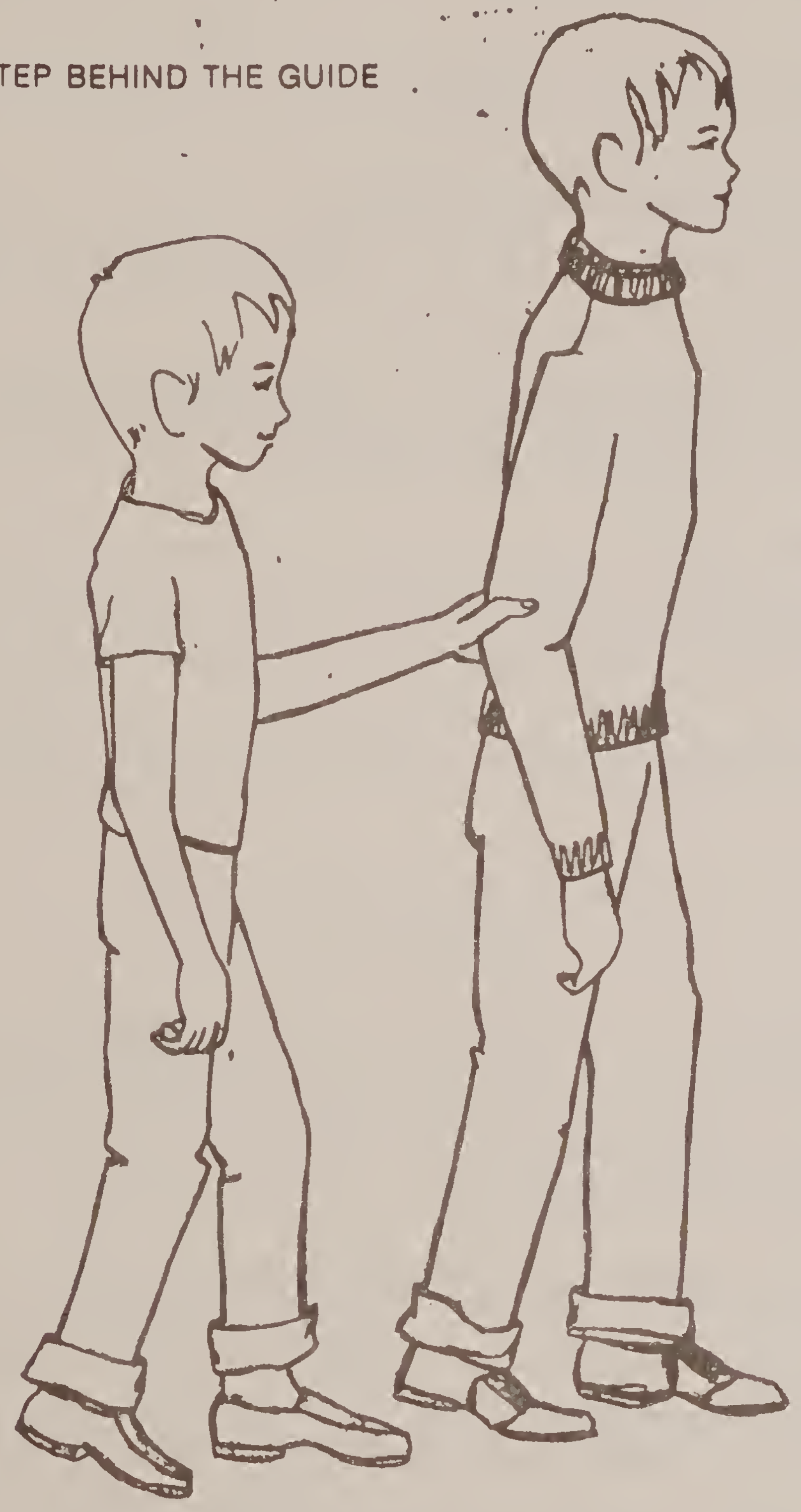
GRIP USED WITH SIGHTED GUIDE
(SIDE VIEW)



GRIP USED WITH SIGHTED GUIDE
(BACK VIEW)

USE OF SIGHTED GUIDE

1/2 STEP BEHIND THE GUIDE



II. Reversing Directions

Purpose: To enable the student and guide to execute a 180 degree turn in a limited amount of space.

A. Basic Method - Procedure

1. The guide verbally indicates to the student to face the opposite direction.

2. The student releases his grip.

3. The guide and student turn toward each other while executing a 180 degree turn.

4. The guide reestablishes contact and the student resumes the proper position and grip.

B. General Observations

1. This procedure provides the least conspicuous way of negotiating an about-face in a limited amount of space.

2. This technique may be helpful in crowded areas, such as hallways, auditoriums, and public gatherings.

III. Transferring Sides

Purpose: To enable the student to switch sides out of personal preference, for social reasons, or for comfort and ease in negotiating environmental situations.

A. Basic Method - Procedure

1. The guide furnishes a verbal indication to transfer sides.

2. The student contacts the guide's arm by placing the back of his free hand just above his grip. His fingers are positioned toward the guide's opposite arm.

3. The student releases his grip hand and turns 90 degrees toward the guide's opposite arm.

4. The student trails across the guide's back until reaching the opposite arm, and the student assumes the proper position and grip.

B. Basic Method #2 - Procedure

1. The guide furnishes a verbal indication to transfer sides.

2. With his free hand, the student grips the guide's arm just above the grip hand.

3. The student extends his arms.

4. Student releases the original grip hand. The back of the original grip hand is then trailed across the guide's back to the guide's opposite arm and the student grips the guide's opposite arm.

5. The student's grip on the side from which he is transferring is released and trailed to the opposite arm. The proper grip and position is assumed on the new side.

   The student should not release his outside hand before securing grasp with the other hand to avoid losing contact.

   At this point the student must be alert for further cues from the guide.

C. General Observations

1. The basic method is less complex and may therefore be preferred by young students.

2. The basic method may be preferred when transferring while in a stationary position.

3. Geriatric or orthopedically involved students may prefer method #2, as it affords more stability and security.

4. The lateral movement involved in method #2 may aid the student in maintaining orientation in that a new direction is not assumed.

5. Transferring sides may be accomplished from a stationary position or while in motion.

6. The guide should plan and time initation of transfer, so that the student is on the proper side at the most opportune time.

7. The guide should be alert to student-initiated transfers that may necessitate his moving laterally away from objects on the side to which the student is transferring.

8. The guide should not initiate transfer sides on a turn.

9. Reasons for initiating transfer of sides may be as follows: a) the guide or student may have packages in one arm, b) the guide's or student's arm may be fatigued, c) the palm of the student's hand may perspire, d) the student or guide may have preference for one side, e) social graces may be observed (e.g., male on street side), f) environmental situations may arise (e.g., auditorium seating).

IV. Narrow Passageways

Purpose: To allow passage through a narrow opening that cannot be negotiated in the normal sighted guide procedure.

A. Basic Method - Procedure

1. The guide moves his arm behind and towards the small of his back.

2. The student responds by extending his arm and moving directly behind the guide.

3. After traversing the narrow passageway, the guide returns his arm to a normal position.

B. General Observations

1. The student can perform this technique independent of the guide's cue if he is with an inexperienced guide.

2. Postural alterations such as ducking the head, side stepping, leaning back and shuffling the feet may be observed initially with insecure students.

3. In extremely narrow or congested areas, it may be necessary to use a side-stepping procedure as found in auditorium seating (see Section VIII - Method #2).

4. Judgement of width and time to accomplish this procedure is the responsibility of the guide.

5. The time spent in the narrow passageway position should be minimal to avoid anxiety or discomfort.

6. The guide should initiate narrow passageway if there is any reasonable doubt as to the student's clearance.

7. The guide should maintain constant frontal body alignment in order not to give false nonverbal cues to the student.

V. Accepting or Refusing Aid (Hines Break)

Purpose: To enable the student to graciously accept or refuse assistance, depending on his need or desire.

A. Basic Method - Procedure

1. The student responds to the guide's pressure by relaxing the grasped arm and raising it toward his opposite shoulder, keeping his feet stationary.
2. With his free hand, the student grasps the guide's wrist while verbalizing his intentions.
3. The student pulls the guide's wrist forward until the guide loses contact.
4. To accept aid, the student, with his free hand, assumes the proper grip; to refuse aid, the student does not assume the proper grip. The student releases the guide's wrist.

B. General Observations

1. Acceptance and refusal of aid should be executed as quickly and smoothly as possible.
2. Because of the persistence of certain individuals, it may be necessary for the student to be aggressive in his acceptance or refusal of aid.
3. Acceptance or refusal of aid may be referred to as the Hines Break or the limp arm technique.
4. The encounters will vary, and the ways in which guides attempt to give aid will differ in persistence, method and aggressiveness.
5. As indicated in A-3,4 this procedure provides a good opportunity for the student to display his independence and ability to make decisions.
6. If the "helper" is persistent, the student may have to consent to use his aid. In such a case, the student may also use other protective measures to ensure his safety.
7. The student may be contacted on other parts of the body (e.g. shoulder or back). In this case, rotating the body away from the guide's grasp may suffice.
8. In some cases, verbalization may be all that is necessary in accepting or refusing aid.

9. See III D., Accepting or Refusing Aid with Cane.

10. The instructor may give the student the opportunity to practice this skill by grasping his arm unexpectedly.

VI. Stairways (Single or multi-step)

Purpose: To enable the student and guide to safely and efficiently negotiate stairways.

A. Basic Method - Procedure

1. The guide approaches the edge of the steps perpendicularly.
2. The guide pauses at the edge of the first step.
3. The student aligns himself evenly beside the guide.
4. The guide takes the first step.
5. The student follows at the guide's pace, remaining one step behind.
6. The guide pauses after completing the stairs. The guide and student resume a normal pace.

B. General Observations

1. Positioning of the student next to the handrail may be advantageous for safety, as: (a) the student may be able to grasp the handrail should he begin to trip or fall; (b) a student with additional physical difficulties may be advised to utilize the handrail; (c) a student who is apprehensive; (d) the guide is positioned to reach across the student and grasp the handrail should he begin to trip or fall (in the case of descending stairs).
2. Irregularities of certain stairways may necessitate verbalization on the part of the guide.
3. Student should be alert to auditory clues indicating the nature of the stairway (e.g., width, congestion).
4. Auditory clues, such as pedestrian movement on the stairs and the hollow sound common to most stairwells, may indicate to the student the presence of a stairway.
5. The student may align himself beside the guide for other environmental changes.

6. The guide and student should maintain a relaxed but erect posture, and body weight should be evenly distributed.

7. In situations where the stairway is crowded or congested, it may be advantageous for the guide to initiate movement up or down the first step and then position the student squarely at the edge of the first step with a nonverbal cue.

8. The student should be introduced to this skill on a set of ascending stairs which are not irregular. Depth and width of steps are indicated by the guide's stride and body movement.

9. A curb should be treated as a single step stairway.

10. The guide may indicate sudden terrain changes (e.g. ramps, grass, hills) by a nonverbal cue.

11. In the case of a spiral or curved stairway, it is necessary for student to use handrail.

12. In cases of irregularly spaced steps, it may be necessary for the guide to pause at each step.

VII. Doorways

Purpose: To enable the student to safely and efficiently negotiate a doorway, providing assistance to the guide.

A. Basic Method - Procedure

1. When the guide pulls or pushes the door, the student assumes a modified hand and forearm by extending his arm just above his waist at an obtuse angle horizontally across the front of the body. The palm is rotated outward, keeping the hand aligned with the forearm and the fingers relaxed and together.

2. If he fails to contact the door in approximately one step for pull doors and one and one-half steps for push doors, the student alternates the grip hand with the free hand and moves behind the guide. The student then assumes the modified hand and forearm with the free hand.

3. The guide positions the student to the door.

4. The student contacts the door and pushes it further open.

5. The student releases the door, or the guide pauses to allow the student to close the door.

6. The student resumes the proper position and grip.

B. General Observations

1. The social factor of active participation is very important, as the student is providing vital assistance to the guide.

2. Before encountering a narrow doorway, the guide may indicate nonverbally for the student to move into the narrow passageway position. The student should be aware of the additional time lapse before he encounters the door.

3. As a means of stressing the practicality of the student's assistance, the guide may first take the student through the doorway without the student's assistance.

4. The student should be exposed to as many types of doors as possible.

5. If the student is carrying a small object, he may either keep it in his free hand and proceed with modified hand and forearm or he may place the object between the thumb of grip hand and the guide's arm.

6. If the object is medium-sized, the student may release his grip, maintain contact with the guide's arm by pressing the back of his hand against it, and transfer the object to this hand; or contact may be made with the object itself against the guide's arm or back.

7. For large objects, contact is completely broken and the student traverses the door independently.

8. For motivational purposes, the social implications of opening a door for a female guide may be stressed to a male student.

9. Generally, doors to hallways and public buildings open outward, while doors to private residences and individual rooms open inward.

VIII. Seating

Purpose: To enable the student to locate and examine seat and independently seat himself.

A. Basic Method (General Seating)

1. The guide brings the student within close proximity of a seat.

2. The guide verbalizes the seat's position relative to the student.
3. The student releases his grip on the guide.
4. The student moves his foot in the direction of the seat until contact with the seat is made.
5. The student faces the seat, assuming a modified hand and forearm vertically or horizontally in front of his face and forehead.
6. The student bends at the waist, and with his free arm contacts the seat at the point where it contacts his leg.
7. With the backs of the fingers, the student lightly clears the area on which he will sit by using: a) horizontal and vertical; or b) circular movement.
8. With the back of his legs, the student squares off against the front of the seat and is seated.
9. To exit, the guide reestablishes contact with the student.
10. Simultaneously with rising, the student trails his hand up the guide's arm to the appropriate grip position and assumes the proper grip and position.

B. Method #2 (Auditorium Seating) - Procedure

1. The guide pauses at the appropriate row.
2. The student aligns himself alongside the guide.
3. The guide or student initiates lateral movement into the row.
4. The student is positioned close to the seat, and, with the back of his free hand, trails the back of the seats immediately in front of him.
5. The guide stops at the appropriate seats.
6. The student releases his grip on the guide.
7. With the back of the legs, the student squares off against the seat.
8. The student clears the seat simultaneously with being seated.
9. To exit, the guide reestablishes contact with the student.

10. Simultaneously with rising, the student trails his hand up the guide's arm to the appropriate grip position and assumes a stance alongside the guide.

11. The guide or student initiates lateral movement toward the appropriate aisle.

12. The student is positioned close to the seats, and with the back of his free hand he trails the back of the seats immediately in front of him until reaching the aisle.

C. General Observations

1. The student should be exposed to a variety of seating arrangements and types of seats.

2. The student should be allowed to approach seats from a variety of positions and from different angles.

3. When being seated at a table, the student should keep one hand in constant contact with the table as a reference until he is completely seated.

4. The auditorium seating procedure may also be employed in negotiating extremely narrow passageways or cafeteria lines.

5. As seating is often a critical social situation in which the student may be in the public eye, naturalness is particularly important. Movement should be quick and smooth.

6. For seating in the front row of an auditorium, lateral movement may be unnecessary; in such a case the student should follow the guide's cues.

7. In certain situations, it may be impossible to trail the row immediately in front (e.g. stadiums).

IX. Car Familiarization

Being able to know how to get into and around a car is a valuable skill for a visually impaired individual. Trailing around the car will allow the student to establish main landmarks for doors, front end and rear of the vehicle. After the proper door has been located, the student opens the door and places the nearest free hand on the top of the door opening. This is so the head is not hit against the top of the car on entrance to it. If a cane is being used, it should first be put into the car with the tip on the floor and the crook against the seat. The student then makes sure the seat is clear of objects before sitting in the car. Next the student enters the car safely and efficiently.

To exit the car the student puts the cane out first to establish location of the ground. Then swings the legs out and places the free hand on the roof edge while exiting the car.

X. Individual Student Check Sheet

Instructor ______________________ Student ________________

School Year ______________ Grade Level ____________________

SIGHTED GUIDE

SKILLS	Quarter Completed 1st Fall	2nd Winter	3rd Spring	COMMENTS
Basic Sighted Guide				
Reversing Directions				
Transferring Sides				
Narrow Passageways				
Accepting or Refusing Aid				
Stairways				
Doorways				
Seating				
Car Familiarization				

CHAPTER SEVEN

INDOOR ORIENTATION SKILLS

INDOOR ORIENTATION SKILLS

Introduction

Orientation is the process of using the senses to establish one's position and relationship to all other significant objects in one's environment. For a blind individual, competency in developing an awareness of his surroundings is a result of concentration and practice over a period of training. Since research reveals that competency plays a key role in the person's psychological self-concept, this skill of orientation is essential to a visually handicapped individual who wishes to complement his mobility skills.

There are three principles of orientation: 1) Where am I? 2) Where is my objective? 3) How do I get there? These questions require that the student know 1) where he/she is in space; 2) where the objective is in space; and 3) a way of ordering -- exactly what he/she must do to get from one's present place to one's objective. In order to do this the student must go through a cognitive mental process consisting of five steps: 1) Perception: The process of assimilating data from the environment through the remaining senses, odors, sounds, tactual, kinesthetic perceptions, or change in brightness level. 2) Analysis: The process of organizing perceived data into categories according to consistency, dependability, familiarity, source, sensory type and intensity. 3) Selection: The process of choosing the analyzed data that best fulfills the orientation needs of the present environmental situation. 4) Plan: The process of designing a course of action based on the sensory data selected as most relevant to the present environmental situation.

5) Execution: The process of performing the planned course of action.

Sensory data are constantly perceived by the student, but it is through the process of analysis that the student makes a decision as to its relevance; if the information when analyzed is found to be irrelevant, it is discarded and new data are then perceived and analyzed.

I. Landmarks

Definition: Any familiar object, sound, odor, temperature of tactual clue that is easily recognized, is constant, and that has a known, permanent location in the environment.

Principles: Landmarks are constant and permanent.

A landmark's use is dependent upon knowledge of at least one direction or one object in the environment in relation to it.

A landmark has at least one unique characteristic to differentiate it from other objects in the environment.

Landmarks may be recognizable by their visual, tactual, olfactory, kinesthetic, or auditory characteristics or a combination thereof.

A. Utilization - Purposes, Values, Specific Uses

Landmark can be used:

1. to establish and maintain directional orientation;
2. as a reference point;
3. to establish and maintain distance relationships;
4. to locate specific objectives;
5. to orient or re-orient oneself to an area;
6. to use for perpendicular or parallel alignment for straight line travel;
7. to obtain information about a corresponding area, such as a floor above, using transferability of such landmarks as expansion joints or water fountains.

B. Teaching and Testing

To instruct the student in this skill, the instructor should take him to an easily discernible landmark, explain what a landmark is and how it is used, and tell the student the general location of that particular landmark in relation to his environment.

He can then acquaint student with its relationship to other sensory information in that particular environment. Next, the instructor may use the following phasing sequence to firmly establish this and other landmarks in the student's mind. The student should:

1. familiarize himself with the landmark;
2. point to objects from the landmarks;
3. verbally describe the route to specific objects from the landmark;
4. travel to those objects from the landmark;
5. point back to the landmark from the objects;
6. travel back to the landmark from each object;
7. point to the landmark from specific objects in the environment with known relationships to the landmark, having not started at the landmark;
8. travel to landmark (same conditions as #7);
9. travel between objects with known relationships to the landmark without returning to the landmark each time;
10. return to the landmark by alternate routes.

In addition or in place of the above procedure, the instructor may have the student locate a significant landmark, travel from it to locate distant objectives, and return to it. This should be repeated until the landmark's position relative to all significant objects in the environment has been established.

For the final test, the student should be taken to an unfamiliar area and should establish and utilize a landmark independently.

II. Clues

Definition: A clue is any auditory (including object perception), olfactory, tactile (including temperature), kinesthetic, or visual (including color, brightness, and contrast) stimulus affecting the senses which can be readily converted to give the student information necessary to determine his position or a line of direction.

Principles: A clue may be dynamic or stationary.

The functional use of a clue depends upon its familiarity and knowledge of its source.

Certain clues may be transferable from one environment to another.

All stimuli do not have equal value as clues; some will most adequately fulfil the informational needs of the moment (dominant clues), some will be useful but to a lesser degree, and some will have negative value (masking sounds).

A. Utilization - Purposes, Values, Specific Uses

The ability to understand and use clues may be particularly valuable, as they are numerous and readily available. Some ways in which they may be of aid are:

1. to obtain directions;
2. to determine one's position in the environment;
3. to maintain directional orientation;
4. to establish line of direction;
5. to aid forward projection into the environment;
6. to locate a specific objective;
7. to re-orient oneself to an environment;
8. to obtain information concerning the environment;
9. to obtain information about a corresponding area, such as a floor above, by using transferability of clues, (e.g., the sound of an elevator).

B. Utilization - Techniques and Procedures

When establishing and utilizing clues, one should:

1. assess its relevance;
2. decide what information it provides;
3. identify the source of clue;
4. evaluate the clue in the context of the environment;
5. associate it with past experience;
6. ascertain the dependability of the clue;
7. know the relationship of the clue to oneself and one's objective.
8. be aware of masking stimuli, i.e. sounds which block or distort relevant clues.
9. be cognizant or present environment and know the types of clues that may be available.

C. Teaching and Testing

To begin, the instructor should work on developing the student's skill in perceiving and interpreting environmental stimuli. Games and exercises may be employed here, such as "What Do You Hear?" In this game, the instructor places several students in an area and tells them to list every sound they hear within a given time period. The individual or team which has the most complete list wins. The instructor may give the student cards with a number of similiar textures on them (one texture per card) and have him match them to a corresponding texture board.

The instructor should explain to student what clues are, their values and purposes, and how they may be used. To begin active teaching, the instructor should structure the environment so the student receives single, obvious clues, easily interpreted, without distractions. Gradually, he should add subtlety and complexity to the clues and additional distracting stimuli.

To test the student, instructor may give a hypothetical situation, present a recording or put student in a place containing various stimuli and ask what clues he would use and how. Another test would be for the instructor to survey an environment containing a wide variety and volume of environmental stimuli and to give the student runs in which he has to rely solely on clues in order to locate his objective successfully.

III. Measurement

Definition: The act or process of measuring. Measuring is a skill involving ascertaining the exact or approximate dimensions of an object or space, using a given unit.

Principles: Everything in the environment is measurable. Linear measurements are constant.

There are standard increments or units of measurement; those commonly used indoors are: inch, foot, yard, rod, and any fraction or approximation thereof.

Standard units of measurement have fixed, definite, interchangeable relationships to each other (e.g. 12 inches = one foot), and appropriate increments should be chosen according to the distance to be measured (e.g. use feet to measure length of table, use inches to measure length of pencil).

Measurements may be divided into three broad classes: 1) Measurements using standard units; 2) comparative measurements; and 3) nonstandardized (paces, knee high).

Comparative measurements compare the length or distance of two things; for example, longer than, wider than, less than.

Linear measurement is applied to the three basic dimensions: length, height, width.

Standard or nonstandard units may be used for approximate measurements (e.g. approximately seven yards, waist-high, three paces).

A. Utilization: Purposes, Values, Specific Uses

Measurement can be used:

1. to determine or approximate the dimensions of an area whose size will affect the student's functioning therein;
2. to determine what mobility techniques are appropriate in a particular area;
3. to gain an accurate concept of particular objects and positional relationships between them;
4. to obtain a clear concept of the size of an area or object in relation to body size.

B. Teaching and Testing

The student should know the different units of measurements and their relationship to each other. Demonstrate how to measure an object in the room in inches; object should be measureable in integers, and less than one foot long. Have the student do same. Have the student practice this procedure on different objects, using different measurements units, but only one type of unit at a time. Explain to the student that certain units are more appropriate than others on different measuring assignments. Gradually have the student work towards a) greater accuracy in measurement, b) greater lengths or distances, and c) measuring in mixed units and fractions (e.g. 6 feet 2½ inches).

If the student needs to develop perceptual understanding on increments, the instructor may help by having student tactually examine objects of a given unit length.

Once the student has mastered the use of standardized measurements, his knowledge may be expanded to include the use of body parts or objects (e.g. cane, slate, cigarette) for obtaining approximate and comparative measurements (e.g. waist-high, knee-deep).

To test the student's understanding of or facility in measurement, you may: a) have him travel a distance of a certain exact or approximate distance; b) have the student locate two or three objects in the corridor and tell you their distance from each other and from the starting point by whatever he deems the most appropriate increment; c) have the student estimate the height, length and width of various areas and objects using auditory clues only.

The student should be working towards developing good distance awareness as well as becoming proficient in establishing and in developing exact and approximate measurements of various lengths and areas, and in being capable of good judgment as to when approximate measurements are sufficient and when exact measurements are needed.

IV. Turns

45 degrees, 90 degrees, 180 degrees (Indoors and Outdoors)

Definition: A turn in mobility is a systematic and regulated movement of an individual in order to maintain orientation with the environment and compass directions. There are three (3) turns which the student must master - 45 degrees, 90 degrees, and 180 degrees.

A. Utilization

The purposes, values, specific uses of 45 degree turns:

1. for correcting one's alignment for street crossings;
2. for correcting one's alignment for maintaining straight alignment when not trailing.

90 degree turns:

1. for maintaining proper orientation to compass directions;
2. for maintaining alignment with streets, traffic, buildings, and walls when the use of a 90 degree turn is required for the travel environment - intersecting halls, sidewalks, streets;
3. for obtaining alignment when necessary to cross one's parallel street.

180 degree turns:

1. for reversing directions;
2. for realigning oneself to one's parallel street for crossing.

B. Teaching and Testing

To instruct these turns the instructor should start off allowing the student to be in physical contact with a wall or side of a desk when practicing the turns for tactual feedback. These turns should be taught in the following sequence: 180 degrees, 90 degrees, 45 degrees

1. Have student stand with back to a wall.
2. Ask student to face the wall.
3. Then tell student that he/she has just reversed his/her directions and that that is called a 180 degree turn or half turn. If the student can understand "reverse directions" but not make a 180 degree turn, then do not use the degree name for the turn.
4. Continue this procedure using other objects for alignment.
5. Then have student practice reversing directions without using an object for alignment until proficient at making the turn upon request.
6. Repeat the same procedure using "90 degree turns" or "right turns".
7. Repeat the same procedure for 45 degree turns.
8. After the student has mastered all of these turns then have him/her make these turns to face different compass directions.

Example:
a. Face north.
b. Which turn did you make to turn north?
c. Now face the opposite direction from north.
d. Make a 90 degree east.
e. Did you turn left or right to face east?
f. Walk parallel to the wall.
g. Now walk directly away from it or perpendicular to it.
h. Which turn did you make to turn away from the wall?

V. Compass Directions

Definition: "A direction is a line on which something is moving, along which something is pointed, in which something is aimed, or towards which something is facing." Compass directions are specialized directions which are dictated by the magnetic fields of the earth. The four main compass directions are cardinal points, and are spaced with 90 degree intervals around the circle of the compass; they are north, east, south, and west.

Principles: Compass directions are constant.

Compass directions are transferable from one environment to another. Compass directions allow the student to relate to the distant environment. Compass directions allow the student to relate environment to environment concepts in a more positive and definitive manner.

There are four main compass directions.

Principle of opposites: East and west are opposites; north and south are opposites.

An east-west line of direction is perpendicular and at right angles to a north-south line.

All east-west lines are parallel; all north-south lines are parallel.

Travel may be either east or west on an east-west line, and north or south on a north-south line.

A. Utilization - Purposes, Values, Specific Uses:

Compass directions are of value to the visually handicapped person because:

1. Directions provide a personal system of orientation for the blind person - a way of monitoring movement and self-to-environment relationships.
2. Directions are more explicit and efficient when covering greater distances.
3. Directions provide a systematic means of traveling and maintaining orientation. The main point is that use of compass directions is efficient, because compass directions are constant and add stability to the environment.

Directions may be used:

1. To lay out, describe, and/or follow given routes to objectives;
2. to lay out alternate routes to an objective;
3. to facilitate communication concerning location of an object or place;

4. to obtain and maintain orientation (maintaining cognizance of directionality at all times prevents getting lost);
5. to establish and make optimum use of landmarks or points of reference;
6. to describe line of direction and line of travel; and
7. to formulate relationships between points (objects or places) in the environment or between oneself and points in the environment.

B. Utilization - Techniques and Procedures:

The following are a few ways in which the student may use directions to orient or reorient himself indoors:

1. Retracing his steps until arriving at something familiar, with known direction;
2. use of landmarks;
3. use of the sun -- brightness or temperature;
4. use of environmental clues, such as pedestrians, traffic sounds, etc., and
5. soliciting aid.

C. Teaching and Testing

First, explain to the student that there are four primary directions, which remain fixed and constant regardless of where he is and which way he is facing. Take the student to a familiar area, and while manipulating him appropriately, say something like the following: "You are now facing north. You are now facing east. You are now facing south. You are now facing west." Repeat this several times; then see if student can do it on his own, and if he can name the directions he is facing while moving counterclockwise. If the student has difficulty with this, you may have him think of directions in terms of the face of a clock, using 12:00 as north and 3:00 as east, etc.

When he has accomplished this, have the student face north, and ask him to point and then face south. Repeat this several times, and ask if he can tell you anything about the relationships between north and south. If not, give him several alternatives, such as "Are they next to each other? Are they the same? Are they opposite each other?", etc. When the student understands the relationship between north and south, do the same for east and west. Use similar procedures to have the student grasp the relationships between north, south, east and west, drawing on concepts of right angle and perpendicular. Next, move the student to a new area, and giving him one direction, see if he can show you the others. Drill should be used throughout this process.

Have the student face in one direction and ask which directions are on his left, right, and behind him. Repeat for other three directions. This can be reinforced with the "WE" System, a functional game which does not require understanding of the cardinal directions but helps in remembering their relationships to each other. It is a word association game to help monitor the directions during travel, and is based on four systems as follows:

1. When facing north, the "WE" System -- west is left, east is right.
2. When facing south, the "sew" system -- south is ahead, east is left, west is right.
3. When facing east, the "never snows in the east" system -- north is left, south is right.
4. When facing west, the "it snows in the west" system -- south is left, north is right.

When using this game, the instructor should ask the student his direction every time he makes a directional change. With practice, the student should be able eventually to drop the word association, then the letters.

Give the student runs, using cardinal directions, and have him point to where his objective should be before each run and point to his starting point after its completion. First give runs in terms of cardinal directions, then in terms of left and right, and have the student repeat the directions using north, south, east and west. Have the student give alternate routes to objectives, Phase the student gradually into more general runs, such as finding the north-eastern-most corner of a building. In these situations, if the student becomes disoriented, he may find himself trying to make the environment fit into his concept directionally, even if it is wrong; for example, calling north "east" because, in his disoriented state, it seems logical to him.

Explain to student the concept of relative direction as opposed to absolute direction. A good method for teaching and testing this is the fourstep formula to prove relationships between the student and any point in space, which is as follows:

1. Where is it? a) front b) back c) left d) right
2. What direction is it: a) north b) south c) east d) west
3. What direction is the object from me? (same alternatives as #2).
4. What direction am I from it? (same alternatives as #2 and 3).

The child or instructor chooses an object and the student those four questions, applying them to the position he is in relative to that object. Once the student is proficient in this game, the instructor can make additions and modifications, such as having the student face other directions and again answer the four questions, to find that the answers remain the same. Ask the student, "How do you change your relation (directionally) to the chair?" Later, questions 1 and 2 can be omitted. You can use different distances and add in a variety of distance factors. This can also be used to try to clarify the difference between facing in a direction and one's direction in relationship to objects.

Intermediate directions should be explained to the student and can be clarified by tactual exploration of a braille compass or by discussing with the student the end point of a run involving two or more cardinal directions. Throughout teaching of compass directions, the student's ability to transfer and generalize his knowledge of directions to other places should be tested. He should be made to understand that maps are representations of larger areas, and his ability to transfer directions from maps to the environment should be tested. The student may be further tested by having him explain his position relative to a particular point of reference or landmark in directional terms. A further test of the student's understanding would be to bring him to a corridor, give him one cardinal direction, and have him tell you the direction of the corridor and which side he is on, and have him place himself parallel to and then perpendicular to the corridor.

When the student's knowledge and understanding of compass directions is established, the instructor may work on more refined aspects of directionality such as straight-line travel, veering, recovery, and squaring off. The student should be capable of using an established, the instructor may work on more refined aspects of directionality such as straight-line travel, veering, recovery, and squaring off. The student should be capable of using an established landmark to reorient himself and/or determine his direction.

VI. Indoor Numbering Systems

Definition: The patterning and arrangement of numbers of rooms within a specific building.

Principles: Focal points are usually near main entrances or where two main hallway arteries intersect.

Odd numbers are usually on one side and even numbers on the other.

Numbers usually progress from the focal point in sequence of twos.

Conceivable range of numbers on any given floor is 0-99 in the basement or on the first floor, 100-199 on the first floor, 200-299 on the second floor, etc.

A. Utilization - Purposes, Values, Specific Uses

Knowledge of the principles of numbering systems is of value in familiarizing oneself with a given building.

Knowledge of numbering systems is useful:

1. To minimize alternatives and assist in more efficiently locating specific objectives;
2. as a base from which to generalize to other floors and other buildings;
3. to assist in understanding and verbally describing the location of specific objectives.

Some concepts which may be introduced and/or further developed through the practice of establishing and utilizing numbering systems are: ordering, perpendicular, parallel, straight line, beginning, end, across, directionality, near, far, turn, above, below, up, down, measurement, transference (i.e. expansion joints, elevators, stairs, water fountains and bathrooms are usually transferable from one floor to another).

Skills which may be introduced or further developed are: sound localization, straight line travel, travel and protective techniques, soliciting aid, counting, distance awareness, turning (90 degree and 180 degree), ability to generalize and transfer establishing and utilizing landmarks and clues, and measurement.

B. Utilization - Techniques and Procedures

How to determine an existing numbering system:

1. Establish the focal point - where the numbers originate. This is usually near the main entrance or where two main arteries cross.
2. Solicit aid - usually either for the first two room numbers on one side of the hall or the first room number on either side of the hall.
3. Establish how many floors are in the building.
4. Establish the odd-even sequence.
5. Determine the progression of numbers (numbers usually progress

away from the focal point.) Find out how high the numbers run and whether they go up by twos.

6. Establish irregularities in the building's structure (annexes, alcoves, etc.) and in the numbering sequence (e.g. restrooms, storage closets, janitor's closets, etc.).
7. Incorporate the use of landmarks into the numbering system, (e.g. fireboxes, expansion joints, etc.)
8. Optional: establish a landmark for the halfway point in the corridor(s).

Note: Step 3 may come after step 5.

Note: Because of exceptions and irregularities in some numbering systems, knowledge of the system will sometimes only serve to help the student locate the general area of his objective, at which point he will have to solicit aid. Some common irregularities include: 1) unnumbered doors, such as janitor's closets; 2) several doors with the same number at several rooms -- such as 233A, 233B, etc.; 3) auditoriums, lab rooms, etc., which may extend off the main hall and have numbers out of sequence; 4) rooms within rooms (e.g. room 201 may contain the doors to rooms 202, 203, 204, or 201A, 201B, etc.)

How to use a numbering system:

1. Enter a building where the numbering system is known.
2. Locate the focal point or a landmark nearest to your objective.
3. Trail along the wall, counting doors or mentally numbering doors until you reach your objective.

*4. If unsure, solicit aid.

C. Teaching and Testing

To teach numbering systems, choose a building with a highly regular numbering system, transferable between floors and with logical relationships between perpendicular corridors. Verbally explain the numbering system, possibly while employing a tactile map. Walk

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*Soliciting aid is used in numbering systems mainly for three reasons: a) to establish the progression of numbers when establishing the numbering system, b) to establish the odd-even sequence, and c) to check the room number when locating a specific objective.

the student through the building, telling him the numbers and pointing out exceptions and possible landmarks. Cover one full floor and have the student describe the system. Then do one half of a second floor (where there is good transference), and have student complete the numbering system on the second floor.

Ask the student where a certain room number on a third floor of the same building is; have him: 1) tell you approximately how far down the corridor it is and on which wall, 2) tell you how to get there, and/or, 3) point to where it should be, 4) travel to it.

Take the student to a perpendicular corridor; ask him to hypothesize what he thinks the numbers are there and why; have him find a certain room on that corridor. If he is correct, give him an objective on the same corridor on another floor; ask him how he knows he's at the right room and point out any errors. Give him a new objective on that corridor. If he is incorrect, discuss his hypothetical numbering system and try to have him realize any fallacies in it by using thought-provoking or leading questions.

Note: The instructor may choose to make student aware of his errors at the time they are made by asking him questions at the time or error -- e.g. student assign a number to a bathroom door, and the instructor asks student's rationale for this action. Try to lead him to the answers. Observe the student's technique -- is he logical in his thinking?

Once the student has a basic understanding of the numbering system in that building, phase into more complex buildings and buildings with more irregularities, use buildings with several corridors, use basements, give more complex runs, and have the student establish and utilize landmarks within buildings. For buildings with very irregular or difficult-to-conceive floor plans or shapes, the instructor can use a tactile map or can trace the shape of the floor using student's finger.

Three common testing techniques employed here are: 1) "Tell me where room _____ is", 2) performance runs, and 3) verbal description of the numbering system by the student.

Games to help teach and test:

1. a. Tell the student "I will give you instructions to get to room ______ and I want you to follow them exactly; see if they're right."

   b. Give a room number; have him tell you exactly how to get there. Then say, "I'm going to follow your instructions; let's see if we get there."

c. Tell the student, "I'm going to give you a set of instructions; you tell me what room number you think they will bring you to if followed."

Any or all steps can be repeated until mastered.

2. Repeat, or replace the above directions with a tactile map.

3. Give the student a tactile map of a hypothetical building (or one he doesn't know); have him make up his own numbering system and discuss it. Include all the components of numbering systems.

4. Have the student locate something with reward value -- he gets the reward if he reaches his objective efficiently. Coke machines, game rooms, and exits can be used, as well as other rewards. The objective can be in a numbered or unnumbered room if student knows where it is in relation to a numbered room.

VII. Self-Familiarization

The student seldom encounters difficulty when traveling in a familiar environment. The true test of a student's orientation skills is when he/she is faced with making himself familiar with an unfamiliar environment.

Using the protective techniques and the self-familiarization process as presented here, the student should be able to obtain a functional understanding of the environment, which would include: position relative to significant objects within the environment and object to object (environment to environment) relationships.

The five components of orientation are the foundation of the self-familiarization process. They are: compass direction, measurement, clues, landmarks, and indoor numbering system. The student must not only have an intellectual awareness of these components, but he/she must also be able to functionally apply them individually and in combination. If used properly they give meaning to the self-familiarization process and make it systematic.

When familiarizing oneself with an environment the student should keep three basic questions in mind: 1) What information do I need to function within this environment? 2) How do I obtain this information? 3) How will I utilize this information?

A procedural breakdown of the self-familiarization process is presented below. The student upon entering a building that he/she plans to visit with some degree of frequency should:

1. Note the door's directional positon (i.e. door on south side of building, east end of building). This requires the student to use outdoor environmental clues - sun, traffic, etc. (clues)

2. Note any easily identifiable characteristics about the entrance that would establish it as a landmark, also noting any clues that may aid in relocation.

3. Note the door or entrance position relative to the main corridor, (This will give the student the corridor direction.)

4. Explore the immediate environment for landmarks or clues such as stairs, elevators, escalators, water fountains, rest rooms, telephones, odors, temperature changes or changes in brightness level.

5. Begin to expand the environment by moving along the corridor, trailing corridor wall, classifying environmental information into clues or landmarks and establishing the positional relationship (measurement) to each other and original focal point (landmark).

6. Note the type of environment (i.e. is it a classroom building, office building, etc.)

7. Be aware of landmarks or clues that may have transference value to another floor in the same building (i.e. water fountains, stairs, rest rooms, elevators, expansion joints, etc.)

8. Continue this procedure the entire length of the corridor returning on the opposite side repeating procedures five through seven until reaching the original focal point (landmark).

9. After completing the above procedures the student solicits aid to establish the numbering system of the building, relating the numbering system to the environmental information he/she has previously obtained (landmarks, clues, compass directions and measurement). Information regarding the numbering system may be obtained at a point earlier in the self-familiarization process if the opportunity presents itself.

10. Transfer applicable environmental to other floors (if multi-floor) and begin the self-familiarization process again.

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[*] See page for Indoor Orientation Skills Check Sheet.

CHAPTER EIGHT

SPECIAL SKILLS

INDOORS

SPECIAL SKILLS - INDOORS

Introduction

This section includes elevators, escalators, soliciting aid, basic map reading and construction and independent shopping. These skills should be taught to students who demonstrate the capabilities to and maybe potential users of these skills. They also can be utilized as motivators for learning advanced skills, such as mall travel. Soliciting aid is the one skill that should be required instruction for all mobility students. Being able to solicit aid correctly is a prerequisite skill for all independent travel.

I. Elevators

Purpose: To enable the student to utilize elevators safely, efficiently and independently.

A. Basic Method - Procedure

1. The student locates the elevator and presses the appropriate button.
2. The student positions himself to one side of the elevator door.
3. When the elevator arrives, the student pauses and then enters using the shortened touch technique and uses the modified hand and forearm.
4. The student locates the button panel and determines the arrangement, presses the appropriate button, and then positions himself against the side wall.
5. The student exits quickly, using the shortened touch cane technique.

B. General Observations

1. The student should be aware that certain elevators may: a) have intercom systems; b) have two different bells which aid the student in determining its direction; c) have doors which either open from one side or split in the middle, and d) have an elevator operator; and e) some elevators may have emergency telephones.
2. Some students may be fearful of the elevator door closing on them, so the instructor should demonstrate how contact with the rubber casing on the door will prevent the door from closing. Elevators are usually recessed in from the wall, and may be located near the main entrances of a building.
3. Summon buttons are usually between waist and shoulder height, are usually positioned between elevator doors or to either side, and may be of the "sensi-touch" or "depress" type. If the elevator has "sensi-touch" buttons (summons button as well as inside panel arrangement) the student should be careful when exploring these to be sure of pushing the appropriate button. In addition, some "sensi-touch" buttons may not work if the student is wearing gloves.

4. Large buildings may have two or more elevators which are usually located in the center of the building with possible rear doors.

5. To determine the correct floor, the student may: a) push all the floor buttons in the proper sequence and count each stop; b) detect a surge in the elevator's upward or downward movement; or c) solicit aid from pedestrians who are using the elevator.

6. Some elevators may have braille labels for the buttons.

7. If the student will be using the elevator frequently, he may establish landmarks for locating it in the future.

II. Escalators

Purpose: To enable the student to utilize escalators safely, efficiently and independently.

A. Basic Method - Procedure

1. The student locates the escalator by localizing on available sound clues, makes contact with the right side of the escalator, and transfers the cane to the left hand.

2. The student locates the handrail, locates the moving step with the tip of his cane, and moves up to the edge of the steps.

3. The student determines whether the escalator is ascending or descending by extending his cane tip forward.

4. The student places one foot lightly over the edge of the mental plate and when the student detects the seam of the emerging step, he steps onto the escalator.

5. The student then positions the cane tip on the edge of the preceding step, and when the student's cane tip or foot hits the edge of the landing, he takes a normal step, clearing quickly as he does so.

B. General Observations

1. If the student is traveling with a sighted guide, he may need to traverse the steps independently because of the narrow width, with the guide positioned behind the student. On wider escalators the guide positions the student to the handrail and verbally indicates when the student should begin the first step.

2. Congenitally blind students may have a fear of escalators, which should be alleviated by fully explaining the nature and characteristics of an escalator.

3. The student should be cognizant of the patterns of escalators when there are more than two.

4. In areas of several escalators during busy times there may be chain dividers extending out one or two yards at the edge of the landing.

5. The student should remain aware of his orientation while traveling on escalators.

6. If the student will be using the escalator frequently, he may establish landmarks for locating it in the future.

III. Soliciting Aid

Refer to Outdoor Soliciting Aid.

IV. Basic Map Reading and Constructing

Purpose: To enable the student to visually and/or tactually imagine the layout of both familiar and unfamiliar areas.

A. Basic Method - Procedure

The student is introduced to small tactual maps of familiar areas. This will allow the student to associate the abstractness of the map to a known concrete area. Next the student is introduced to more complex maps that have various symbols and map legend. After the student is able to relate a map to a familiar area, have the student use a map to travel within an unfamiliar area. When the student feels secure in using maps to aid in travel have the student devise his/her own maps of familiar and then unfamiliar areas.

B. General Observations

Basic Map Reading -

1. Use identical symbols for like items on each menu.

2. Place compass direction indicator in some position on each map.

Basic Map Construction -

1. Use map pieces that have good textured differences and/or color differences for low vision students.
2. Have map pieces already made.
3. Have student show where the pieces should be placed and then glue them down.

V. Independent Shopping and Purchasing

Purpose: To enable the student to feel at ease when shopping, soliciting aid from clerks or other shoppers, making purchases and counting change.

A. Basic Method - Procedure

1. Familiarize student to layout of store and allow student to observe instructor several times before shopping by self.
2. Have student enter store and look for specific items.
3. Have student solicit aid when necessary.
4. Have student go through the checkout counter, pay for item and count change.

After the student has done this several times and feels at ease, then have them shop in an unfamiliar store using soliciting aid.

B. General Observations

1. Have student locate only items that are easily visible and familiar to the general shopper.
2. Have low vision students use vision to identify some items without soliciting aid.
3. Use a variety of stores and shopping experiences such as: grocery store, shopping center, mall, convenient store, garden center, stamp redemption center, etc.

VI. Individual Student Check Sheet

Instructor ______________________ Student ______________

School Year ______________________ Grade Level ___________

INDOOR ORIENTATION SKILLS

SKILLS	Quarter Completed			Comments
	1st Fall	2nd Winter	3rd Spring	
Landmarks				
Clues				
Measurement				
Turns - 45 degrees 90 degrees 180 degrees				
Compass directions				
Indoor numbering systems				
Self familiarization				

SPECIAL SKILLS

Elevators				
Escalators				
Soliciting aid				
Basic Map Reading and Constructing				
Independent Shopping and Purchasing				

CHAPTER NINE

CANE SKILLS

CANE SKILLS

Introduction

This section identifies and briefly describes all the basic long cane skills that a potential cane traveler may need to know in order to be a safe, efficient, and an independent traveler in both familiar and unfamiliar environments. The skills should be taught according to the individual's needs and abilities. Therefore, each student's instructional program should be individualized accordingly.

I. Story of the White Cane

Purpose: To acquaint the student to the history and development of the white cane and orientation and mobility, the student will also be introduced to various cane modifications and the parts and function of the white cane.

A. Basic Method - Procedure

1. Have student read The White Cane Story and then discuss and quiz the student on the important aspects of the story.
2. Allow the student to see the old type canes, the long cane, folding canes, and read about the lazer cane.
3. Have student identify cane parts and their function on the various canes.
4. Allow student to assist in the making of his/her own cane.

II. Walking With a Guide

Purpose: To enable the student to position his cane properly when utilizing a sighted guide.

A. Basic Method - Procedure

1. With an experienced guide: a) the student may tuck the cane under the arm in a vertical fashion while maintaining a grip on the shaft; b) the grip and crook of the cane may be positioned against the lateral or anterior portion of the shoulder while maintaining a grip on the shaft.
2. With an inexperienced guide: a) the cane may be held in the basic diagonal technique; b) the cane may be held in the shortened diagonal technique while maintaining a grip on the shaft.

B. General Observations

1. The particular guide as well as various environmental situations will dictate which technique should be utilized by the student.

III. Reversing Directions

(see Reversing Directions - Sighted Guide - for more details.)

Purpose: To enable the student with cane and guide to execute a 180 degree turn in a limited amount of space.

A. Basic Method - Procedure

1. The guide verbally indicates to the student to face the opposite direction. The student releases his/her grip. The guide and student turn toward each other while executing a 180 degree turn. While turning, the student releases grip on cane shaft to let it slide down from under arm. The student then holds the cane in a close vertical position and transfers it to opposite hand. The guide reestablishes contact and the student resumes the proper position and grip and positions the cane appropriately.

IV. Transferring Sides With a Guide

Purpose: To enable the student to switch sides without the cane interfering with the guide.

A. Basic Method - Procedure

1. The guide gives a verbal indication to transfer sides.

2. The student transfers the cane to the grip hand between the thumb and the guide's arm in a vertical position.

3. The student places the back of his free hand above this grip.

4. The student's fingers are positioned toward the guide's opposite arm.

5. The student releases his grip, keeping the cane in his hand in a vertical position as he turns 90 degrees towards the guide's opposite arm.

6. The student trails across the guide's back until reaching the opposite arm.

7. The student assumes the proper position and grip and positions the cane appropriately.

B. Basic Method #2 - Procedure

1. The guide furnishes a verbal indication to transfer sides.
2. The student transfers the cane to the grip hand, between thumb and the guide's arm in a vertical position.
3. The student grasps the guide's arm above his grip.
4. The student releases his original grip, keeping the cane in a vertical position between the thumb and first finger in this hand.
5. The student extends his arms.
6. The back of the extended fingers of the cane hand are trailed across the guide's back to the opposite arm, then the student grips the guide's opposite arm.
7. The student's grip on the side from which he is transferring is released and the hand is trailed to the opposite arm.
8. The proper grip and position is assumed on the new side and the cane is positioned appropriately.

C. General Observations

1. See General Observations for I. Basic Sighted Guide and III. Transferring Sides.
2. It may be helpful for students to practice this skill in a stationary position before attempting to try it while traveling.

V. Doorways With a Guide

Purpose: To enable the student to negotiate a doorway safely and efficiently, providing assistance to the guide.

A. Basic Method - Procedure:

1. When the guide pulls or pushes the door, the student transfers the cane to a vertical position to the grip hand, between the thumb and the guide's arm and assumes the modified hand and forearm.

2. If student fails to contact the door (in approximately one step for pull doors and one and a half steps for push doors), he alternates the grip hand with the free hand and moves behind the guide. The student then assumes the modified hand and forearm with the free hand.

3. The guide positions the student at the door.

4. The student contacts the door and pushes or pulls it further open.

5. The student releases the door, or the guide pauses to allow the student to close the door.

6. The student transfers the cane back to the original free hand while resuming the proper position or proper position and grip, and assumes the appropriate cane position.

B. General Observations

1. The social factor of active participation is very important as the student is providing vital assistance to the guide.

2. See Doorways, page 116.

VI. Accepting or Refusing Aid

Purpose: To enable the student to accept or refuse assistance graciously, depending on his need or desire.

A. Basic Method - Procedure

1. The student responds to the guide's pressure by relaxing the grasped arm and raising it toward the opposite shoulder; (if the cane arm is grasped, the student first transfers the cane to the free hand). The student should keep his feet stationary.

2. The cane is positioned vertically between the thumb and first finger as the student grasps the guide's wrist, simultaneously verbalizing his intentions.

3. With the cane hand the student pulls the guide's wrist forward until the guide loses contact.

4. To accept aid, the student assumes the proper grip and appropriate cane position, while to refuse aid, the student does not assume the proper grip.

5. The student releases the guide's wrist.

B. General Observations

1. Acceptance and refusal of aid should be executed as quickly and smoothly as possible.

2. Because of the persistence of certain individuals, it may be necessary for the student to be aggressive in his acceptance or refusal of aid.

3. If the student is in a situation where it is impossible to utilize the proper procedures for accepting and refusing aid, he should simply employ the appropriate cane technique for maximum protection.

4. The student should handle his cane carefully to avoid obstructing movement of people in the area.

5. See Accepting or Refusing Aid.

VII. Cane Placement

Purpose: To enable the student to position his cane so that it is easily accessible and will not interfere with others.

A. Basic Method - Procedure

1. Storage: a) the cane may be hung by its crook on doors, clothes bars, railings and various other places; b) the cane may be placed vertically against a wall, or in a corner.

2. While seated: a) the student may place the cane beneath his seat, parallel or perpendicular to his feet; b) the student may drape the cane over his shoulder; c) the student may hold the cane vertically between his legs.

3. While standing: a) the student may position the cane parallel and near his body; b) the student may tuck the cane under his arm in a vertical fashion.

B. General Observations

1. The student should always know where his cane is and position it so that it will not interfere with others.

2. The student should be exposed to a variety of situations so that the placement and handling of the cane when it is not in use is not an awkward procedure.

VIII. Diagonal Technique

Purpose: To enable the student to travel independently primarily in a familiar indoor environment with some degree of protection.

A. Basic Method - Procedure

1. The hand is positioned on the grip so that the back of the hand is facing up and the fingers are flexed around the grip. The thumb is extended and rested on the grip so that it points down the shaft.

2. The upper arm, forearm and wrist are extended.

3. The grip hand is positioned six to eight inches in front of the hip and the crook is positioned one to two inches beyond the shoulder extremity.

4. The cane shaft is angled toward the ground so that the cane tip is one to two inches beyond the opposite shoulder extremity.

B. General Observations

1. In this skill the cane is used only as a bumper and not as a probe, and will not pick up dropoffs; therefore, its use should be restricted to familiar areas.

2. This procedure provides no protection above waist level, and it may be desirable to use it in conjunction with upper hand and forearm or other self-protection skills.

3. The student should be adept in using the diagonal with either hand.

4. The instructor should note the position of the cane (i.e. the height and width of coverage) and the manner in which the student contacts objects, and make the necessary corrections.

5. Instructor should observe student from the following three angles: 1) front, to assure body coverage and proper posture; 2) lateral, for reaction time and shoulder positioning; and 3) posterior, to check the distance of the cane tip from the ground and coverage of body width.

IX. Changing Hands With the Diagonal Technique

Purpose: To enable the student to position the cane in the desired hand for reasons of safety and efficiency.

A. Basic Method - Procedure

1. The student rotates his palm and forearm towards the opposite hand.
2. Receiving the cane in the opposite hand, the student assumes the proper diagonal technique.

B. General Observations

1. Initially, it may be advisable to practice this technique while in a stationary position.
2. This technique can be done while stationary or while on the move.
3. This procedure may be utilized at doors, stairways, and before trailing with the diagonal.
4. While changing hands with the diagonal technique on the move, protection is momentarily lost.
5. When making a 90 degree turn the cane should be held in the hand opposite the direction of the turn.

X. Contacting Objects

Purpose: To enable the student to safely approach and examine (if desired) an object after the initial contact.

A. Basic Method - Procedure

1. Upon contacting the object, the cane tip is firmly anchored against the object.
2. The student outwardly rotates his hand so the thumb is proximal.

3. The cane is positioned semi-vertically as the student walks forward in the intended line of direction.

B. General Observations

1. The instructor may want to have the student contact objects of different height and try to determine, from the tactual feedback, the approximate height of each object. This would both provide practice in the technique as well as developing kinesthetic awareness.

2. This skill may be used in conjunction with upper hand and forearm.

3. If the object that is contacted is of no significant value to the student, it is not necessary for the student to utilize this procedure.

4. This technique is the initial step in negotiating doorways and ascending stairs with a cane (see Doorways, Ascending Stairs, and Examining Objects).

5. When contacting pedestrians the student may pull the cane in toward his body and, in some cases, drop the cane.

XI. Shortened Diagonal

Purpose: To allow the student to walk safely with an inexperienced guide to traverse congested indoor areas utilizing minimal space and minimal contact with people or objects in the environment.

A. Basic Method - Procedure

1. The student slides hand down the shaft to shorten the cane and inwardly rotates to bring crank and upper cane close to student. The student employs the basic diagonal technique and slows down pace.

XII. Doorways Without a Guide

Purpose: To enable the student to safely and efficiently negotiate a doorway with the cane.

A. Basic Method - Procedure

1. Upon contacting the door, the student proceeds with the contacted object procedure.

2. The student extends the cane to the right, then to the left until he contacts the doorknob.

3. The student slides his free hand down the shaft until he contacts the doorknob.

4. Utilizing his free hand to open the door the student traverses the doorway, employing the diagonal technique with the opposite hand.

5. After passage through the doorway the student releases or closes the door and employs the appropriate cane technique.

B. General Observations

1. This entire procedure should be accomplished quickly to avoid a collision with oncoming pedestrian traffic and congestion at the doorway.

2. With multiple doors, the student should utilize the door on the right side whenever possible.

3. Generally, as one enters a building doors pull; as one exits, they push.

4. When traveling in a congested area, the student should be alert to environmental clues to ascertain whether the doorway is clear and whether the door is being held open for him, in which case he may proceed through doorway maintaining diagonal technique or modified diagonal technique.

XIII. Diagonal - Trail

Purpose: To enable the student to: a) locate a specific objective; b) maintain a straight line of travel; c) maintain contact with his environment.

A. Basic Method - Procedure

1. The student faces the desired line of travel and is positioned parallel and near the object, with the cane held in the hand opposite the object.

2. The student alters the basic diagonal technique by: a) allowing the cane tip to lightly contact the object approximately two inches above the floor; or b) allowing the cane tip to contact lightly the point of floor and object convergence.

B. General Observations

1. The student should keep to the right side whenever possible.
2. The student should be proficient in this method, utilizing either hand.
3. When trailing around objects on the trailing surface, the student should keep his arm in the same position, using his wrist to move the cane.
4. A common fault is to drift away from trailing surface.
5. When this skill is being used, the pace should be decreased because reaction time is reduced.
6. The student may use distance awareness to initiate trailing when he is near his objective.
7. When teaching this skill, the instructor may want to have the student practice using both hand and cane trailing if student is having trouble keeping is alignment.
8. At open doorways the student may extend the cane forward until contact is made with the opposite side of the door, and resume normal trailing.
9. Generally the student does not trail with the hand in conjunction with this technique unless he is anticipating a specific landmark at that level.

XIV. Diagonal - Slide

Purpose: To enable the student to detect textured changes, drop-offs, and blended areas perpendicular to the line of travel. (This technique should be used when approaching stairways or for feeling secure in an unfamiliar environment.)

A. Basic Method - Procedure

1. The student slows pace. The student modifies the diagonal technique by letting the cane tip touch the floor and slide for a short period of time until the drop-off is detected or the student feels that there is no danger of a drop-off in the direct perpendicular path.

XV. Ascending Stairways

Purpose: To enable the student to go up stairs safely, efficiently and independently.

A. Basic Method - Procedure

1. Upon initial contact the cane tip is firmly anchored against the base of the first step.
2. The student rotates his hand outwardly until the thumb is in a proximal position.
3. The cane is positioned vertically or semi-vertically and student walks squarely up to the steps, simultaneously sliding the hand onto the shaft to a position of functional manipulation.
4. Maintaining the cane in a vertical or semi-vertical position against the base of the step, the student moves the cane horizontally along the base of the step to either side to the full extension of his arms, and returns the cane to a position in front of his body midline.
5. The cane tip is moved from the base to the top edge of the first step.
6. The tip is then slid from the edge of the first step to the base of the second step.
7. With the cane in a vertical or semi-vertical position, the cane tip is placed in contact with a point one or two inches below the edge of the second step, and pressure is exerted with the thumb against the shaft.
8. The student negotiates the first step and keeps his arm extended so the cane tip lightly contacts the edge of each step as the stairway is traversed.
9. When the cane tip no longer contacts a step, the student traverses the remaining step, clears the landing, and assumes the proper cane technique for forward motion.

B. General Observations

1. The ascending procedure should be executed quickly to avoid congestion.
2. It may be necessary to utilize a handrail with certain students.

3. In a learning situation, the instructor should be positioned behind the student and near the handrail so as to catch or brace the student should he begin to trip or fall.

4. When ascending a series of familiar stairs the student may continuously maintain a position of functional manipulation with the cane, thus avoiding constant cane manipulation.

5. The student should be proficient in this procedure with either hand.

6. In familiar situations the student may use the modified diagonal on landings to locate continuously ascending stairs.

7. The student may assume the "pencil grip" rather than the grip described in Procedure 2 under A. Basic Method, Ascending Stairways.

8. Instruction in ascending stairs should precede instruction in descending stairs, as the former is less threatening than the latter.

9. When beginning instruction in this skill, the instructor should select a set of stairs which contain no irregular features.

10. It may also be helpful to the student to project himself slightly forward in order to maintain balance while traversing the stairs.

XVI. Descending Stairways

Purpose: To enable the student to go down steps safely, efficiently and independently.

A. Basic Method - Procedure

1. When the cane tip falls off the edge of the first step it is held in this position.

2. The cane is brought to the center of the intended path against the edge of the first step, or the cane remains in the position where it dropped off and is held against the edge of the first step.

3. The student advances and squares himself to the edge of the first step.

4. The cane remains vertical and, with the cane, the student checks horizontally to either side to determine his position.

5. The tip is brought back to the edge of the first step, then lowered to the tread of the second step.
6. The cane is then slid forward to the edge of the second step.
7. The diagonal position is assumed with the tip of the cane just over the edge of the second step and the tip is raised slightly (one to two inches).
8. Descent begins with the weight back and the cane being held in a fixed position as described in number seven.
9. When the tip of the cane contacts the landing, the student simultaneously clears the area.

   The student resumes the appropriate technique.

B. General Observations

1. Either hand may be used with this technique.
2. The handrail may be utilized with students who are apprehensive or have balance problems.
3. The student should remain to the right side of the stairs whenever possible.
4. The instructor should be positioned in front of the student and near a handrail so as to brace or catch the student should he begin to trip or fall.
5. When beginning instruction in this skill, stairs used should be regular and familiar to student.
6. This technique often deteriorates on long stairways towards the end of the stairs because of fatigue and/or anticipation of the landing.

XVII. Car Familiarization With a Cane

Purpose: To enable the student to enter and exit cars safely, efficiently, and independently.

A. Basic Method - Procedure

1. The student contacts the car and determines its directionality.

2. The student locates the door jamb between the front and back windows, and then locates the door handle just below and to the right of the door jamb.

3. The student opens the door and transfers the cane to this hand, maintaining contact with the door.

4. With his free hand the student contacts the edge of the roof.

5. The student then places his free hand in contact with the seat back, clears the seat, and is seated.

6. The student brings the cane into the car and verbally indicates his intention to close the door.

7. When exiting the car the student opens the door while maintaining contact with the door, the cane preceding him.

8. With his free hand the student contacts the roof and proceeds to exit, verbally indicating when he plans to close the door.

B. General Observations

1. The student should be exposed to a variety of car types and should approach them from varying angles and positions.

2. The student should be exposed to all safety features of cars (i.e. seat locks, safety belts).

XVIII. Touch Technique

Purpose: To enable the student to detect drop-offs and objects in the vertical plane in familiar or unfamiliar environments.

A. Basic Method - Procedure

1. The cane grip rests in the mid-line of the base of the palm with the back of the hand facing laterally.

2. The index finger is extended downward along the flat side of the grip.

3. The thumb is positioned over and around the grip with the remaining fingers flexed around the bottom of the grip so that the crook is in an inferior position.

4. The wrist should be centered at the cardinal mid-sagittal plane (body midline) of the body, and out from the body at a point where the arm-cane combination forms a straight line.

5. Wrist movement is the act of flexion, extension, hyperextension and the return to flexion.

6. Utilizing the proper wrist movement, the cane tip is moved to a point contacting the ground one inch beyond each shoulder.

7. At the apex of the arc, the cane tip is one inch above the ground.

8. The student moves in a rhythmic manner so that the cane tip and the heel of the opposite foot contact the walking surface in unison.

B. General Observations

1. The various components of the touch technique may have to be achieved in segments, as each component may need time and effort.

2. The student should not overstep the area his cane tip has just cleared; if he does, the cane may be too short.

3. Sequence of instruction of this skill should be as follows: a) have student learn to assume proper position and grip; b) have student walk forward in this position, sliding cane, to tactually reinforce correct position; c) introduce arc and have student learn proper arc in stationary position; c) have student incorporate arc while walking; e) repeat with proper rhythm, moving cane in step with feet.

4. To develop awareness of the proper hand, arm, and cane position, the student may: a) align his hand with his shirt buttons or belt buckle; b) without employing wrist movement, center his hand, allowing the cane tip to slide along with walking surface; c) with the free hand, he may reach across and support his elbow, keeping his hand and arm in proper position; or d) with his free hand he may grasp his wrist holding it in the proper position.

5. The touch technique does not provide protection from protrusions above the waist.

6. It is very important for the instructor to view the student from a variety of angles to evaluate each component of this technique: a) front, noting centering of wrist, proper wrist movement, and height of arc; c) posterior, noting shoulder elevation and arc width; and c) lateral, noting reaction time ability, space allotment between the cane hand and mid-line of the body, and shoulder deviations.

7. When beginning instruction in this skill the environment should be non-threatening, containing as few variables as possible (e.g. drop-offs, steps), and the student should not have to concentrate on more than one component at a time.

8. The instructor should think in developmental terms, considering what the student must do correctly before he can progress to the next step.

9. The instructor should note if the student is gripping the cane too tightly as this may restrict his wrist movement.

10. This skill is not foolproof; even with good technique some objects may not be picked up.

11. When traveling in congested areas, the student may want to modify his technique by a) slowing his pace somewhat, b) narrowing his arc, c) choking down on the cane, or d) flexing the elbow and moving it towards the body so that the upper arm rests against the body.

12. If the student's hand-foot coordination is so poor that he absolutely cannot keep in step, the instructor should make sure that the student's pace is slower than his cane rhythm to ensure good coverage.

13. The instructor may introduce distance awareness, straight line of travel techniques, auditory awareness, and object perception in conjunction with this skill.

14. Instructor should have the student practice executing 90 degree turns with this technique, with emphasis on rhythm and staying in step.

XIX. Touch - Trail

Purpose: To enable the student to: a) maintain a straight line of travel; b) locate a specific objective, and c) maintain contact with the environment.

A. Basic Method - Procedure

1. The student faces the desired line of travel and is positioned parallel to and near the object to be trailed.

2. Slowing his pace, the student modifies the basic touch technique by alternating contact with the walking surface and the object being trailed and proceeds to his objective.

B. General Observations

1. The student may initially have difficulty in maintaining the proper rhythm and staying in step.

2. The student should be exposed to various trailing situations to experience the possibility of the cane tip sticking in crevices or protrusions.

3. Touch technique trailing may be more desirable than the diagonal trailing technique because there is less probability of snagging the cane, as well as additional protection.

4. If the student is having trouble staying close to the wall or if he has difficulty understanding the concept of parallel travel, the instructor may have him double trail (using hand and cane simultaneously). This may be gradually discontinued by having the student trail only with the cane and check his position to the wall with his hand at greater and greater intervals.

5. This technique can be used outside as well as inside.

6. In a familiar environment trailing with the hand may be used in conjunction with touch trailing for detecting objects along the wall which cannot be detected by the cane.

XX. Changing From Diagonal to Touch

Purpose: To enable the student to change hands from technique to the diagonal technique (or vice versa) in a safe, natural and efficient manner.

A. Basic Method - Procedure

1. The student rotates the palm and forearm to the body midline.

2. The student assumes the proper grip for use with the touch technique.

B. General Observations

1. This technique is used primarily at stairways and doorways.

2. Instructor may have student practice this skill in a stationary position.

XXI. Shortened Touch

Purpose: To allow the student to traverse congested areas with maximum protection and minimal contact with other pedestrians.

A. Basic Method - Procedure

1. The student slides his hand down the shaft to shorten the cane and outwardly rotates the crook.

2. The student employs the basic touch technique, but narrows his arc slightly.

B. General Observations

1. This technique is primarily used inside stores, heavily pedestrian traveled sidewalks, approaching a curb in a busy area, and executing 90 degree turns after street crossings and exiting from stores.

2. It may be necessary for the student to slow his pace when employing this procedure.

3. Pedestrian sounds may be useful to determining a line of direction or maintaining a straight line of travel.

XXII. Touch - Slide

(Refer to Touch-Slide-Residential Travel for more details.)

This technique should be introduced at this time in an indoor setting for those students who have difficulty in detecting drop-offs when using the touch technique. It may also be used for locating a textural landmark, such as an expansion seam.

Purpose: To enable the student to detect textural changes, drop-offs, and blended areas perpendicular to the line of travel.

A. Basic Method - Procedure

1. Student slows pace and modifies the touch technique by reducing the arc width so that the cane tip alternately touches at a point in front of the instep of each foot. The cane tip is slid from its initial contact point to its proper position one inch beyond the shoulder. This procedure is continued until objective is reached.

XXIII. Examining Objects

Purpose: To enable the student to explore safely and systematically objects relevant to his needs.

A. Basic Method - Procedure

1. Upon contacting the object, the student proceeds with the contacted object procedure.
2. The cane is positioned vertically against the object as the student turns 90 degrees.
3. The student slides his free hand down the shaft of the cane until he contacts the object.
4. The student proceeds to utilize the appropriate search patterns to explore the object.

B. General Observations

1. The student should examine an object in as much detail as he will need to utilize it.

XXIV. Individual Student Checksheet

Instructor ______________________ Student ______________

School Year ______________________ Grade Level ______________

CANE SKILLS

SKILL	Quarter Completed Fall 1st	Winter 2nd	Spring 3rd	COMMENTS
Story of the White Cane				
Walking with a Guide				
Reversing Directions				
Transferring Sides				
Doorways with a Guide				
Accepting or Refusing Aid				
Cane Placement				
Diagonal Technique				
Changing Hands with the Diagonal Technique				
Contacting Objects				
Shortened Diagonal				
Doorways with a Cane				
Diagonal - Trail				
Diagonal - Slide				
Ascending Stairways				

SKILL	Quarter Completed 1st	 2nd	 3rd	COMMENTS
Descending Stairways				
Car Familiarization with a Cane				
Touch Technique				
Touch - Trail				
Changing from Diagonal to Touch				
Shortened Touch				
Touch - Slide				
Examining Objects				

CHAPTER TEN

OUTDOOR ORIENTATION SKILLS

OUTDOOR ORIENTATION SKILLS

Introduction

The use of Outdoor Orientation Skills like Indoor Orientation Skills, is based on three principles:

1. Where am I?
2. Where is my objective?
3. How do I get there?

The student must also be able to perform and integrate the same five steps of the cognitive process (as in indoor orientation skills) while performing the orientation skills.

Refer to Chapter Seven, Indoor Orientation Skills for more information concerning orientation skills.

(Refer to Indoor Orientation Skills Chapter I - IV)

I. Landmarks

II. Clues

III. Measurement

IV. Turns

45 degree, 90 degree, 180 degree

V. Compass Directions

The four main directions are north, south, east and west. The direction opposite north is south; the direction opposite east is west. Clockwise, the directions are north, east, south, west. Counterclockwise, the directions are north, west, south, east. The street you live on runs north-south or east-west. If north-south street, do you live on the east or west side? Sun rises in the east and sets in the west. If house is on the east side of the street it faces west. If "F" street goes north-south and 10th Avenue goes east-west, where is the northeast corner? To go around an intersection clockwise is to go to the four corners in following order: northeast, southeast, southwest, northwest. While riding north in a car, the east side of the street is on your right. While riding east in your car, north side is on the left. If you are south of Main Street and if you face the sound of the traffic on Main Street, you are facing north. If you face north and then turn ninety degrees right (clockwise) you will then be facing east. If you face north and make four 90 degree turns in the same direction, you will end up facing north.

Turns - Practice: a) making 90 degree turns to the left and right; b) about face; c) four right turns, ending up facing same direction from which you started; d) four left turn, ending up facing the same direction from which you started.

VI. Outdoor Numbering Systems

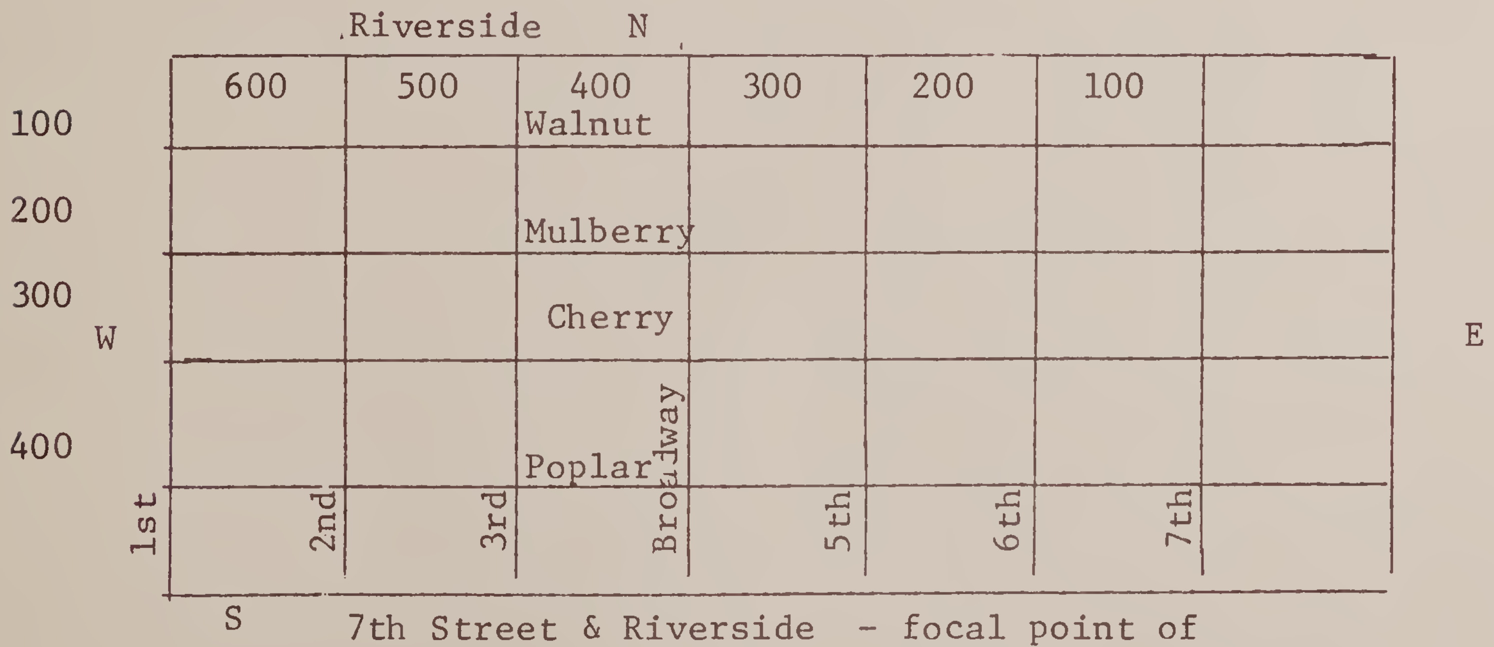
An understanding of the outdoor numbering system of a town or city can provide the blind person with a basis for developing a systematic method of orientating self and then locating a specific objective such as a house or building number on a particular street. This knowledge should allow the blind mobility student to place self in close proximity to a specific street address if not directly in front of it. He/she may have to solicit aid to determine the exact address.

To teach the outdoor numbering system of a city, the mobility specialist must know and understand it themselves. Information about outdoor numbering systems used in different cities is usually available from one or more of the following sources: police stations; chamber of commerce; ambulance companies; taxi companies; the public transit system; fire department; city hall; gas stations.

THE FOLLOWING IS THE NUMBERING SYSTEM IN THE MACON COMMERCIAL AREA:

Seventh Street and Riverside Drive are the dividing streets for the numbering system in commercial area. Riverside is an east-west street. All north-south streets acquire their numbers depending on the number of blocks from Riverside. Seventh street is a north-south street. All east-west streets acquire their numbers depending on the number of blocks from Seventh Street. The south and east side of the street in the commercial area end with even numbers, while the north and west side of the street end with odd numbers.

The numbers within each block run completely through the one hundreds, such as 102 through 198. Numbers are issued by the size of the building, meaning if only one building is on the block the number issued depends on the position on the block. Each street, except Mulberry between Second and Third streets, has an alley that divides the block numerically at 150, 250, 350.



7th Street & Riverside - focal point of numbering system

S & E even numbers
N & W odd numbers

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*See Page for Outdoor Orientation Skills Check Sheet

CHAPTER ELEVEN

SPECIAL SKILLS

OUTDOORS

SPECIAL SKILLS - OUTDOORS

Introduction

This section includes soliciting aid outdoors, multi-patterned street crossing and advance map reading. All travelers will not need some of these skills. The choice of relevant instruction is left to the discretion of the Orientation and Mobility Instructor. Soliciting aid is functional and time spent practicing this skill will aid the student in independent travel.

I. Soliciting Aid (Indoors and Outdoors)

Purpose: The purpose of soliciting aid is to allow the student to travel in somewhat unfamiliar settings with the reassurance of being able to gain directions through the use of proper questioning of passersby or store personnel. When employing the use of such aid the student should be as close to the objective as possible so as to aid the person being solicited.

A. Basic Method - Procedure

1. As the student approaches the desired objective, he or she should stop and listen for someone passing by. If the individual does not sound like they are in a hurry then the student should say in a strong clear voice, "Excuse me, but could you tell me if (name of store, street, etc.) is right on my left (or right) is behind (or in front) of me?" If not, then ask, "Could you please tell me where it is in relation to me?" It is up to the student to help the stranger use the proper directional terms that would benefit the student the most.

2. If there is no one passing by the student, the student could go to a store and open the door. If the student can hear someone close by inside the store, then he or she could ask them for directions or confirmation as to whether or not that was the store they were looking for. Example: "Excuse me, is this (name of store)?" If not, then ask "How many stores to the left or right of this store is it?"

Either of these procedures can be employed when looking for specific rooms or objects within a store or building.

II. Multi-Patterned Street Crossings

Purpose: Residential and commercial street crossings are of major importance to the student's orientation and mobility training. For this reason the method of introducing street crossings and the sequence of the lessons is of utmost importance to the ultimate success of this phase of training. Generally, the lessons should progress from the most simple to the more complex. Success in one step should proceed into the following more complex step. Due to the individuality of each student, the time necessary to complete each step will vary. The instructor should also keep in mind that he/she will be introducing other techniques during this phase of training which may include shorelining, recovery, 3-point touch, touch and slide, touch and drag, and orientational skills.

A. Basic Method - Procedure

Residential - Environmental selection is an important aspect in teaching street crossings as well as other phases of mobility training. During the initial introduction to residential street crossings, the instructor should select an environment that includes distinct curbs, distinct shorelines, narrow streets and little traffic. The following progress applies to residential (non-controlled) street crossings.

1. Traffic lull on parallel and perpendicular streets - crossing during the lull. Main emphasis on mechanics of residential street crossings; crossings with the lull alleviates much of the student's apprehension and builds confidence.

2. One-way parallel street - crossing with the parallel traffic, on the right and then on the left. It is usually easier for the student to project a straight line of travel when crossing with the traffic going in the same direction than when facing oncoming traffic.

3. One-parallel street- crossing with traffic going in the opposite direction on the parallel street. Exposing the student to these various positions relative to the street and the direction of the traffic tests for hearing acuity, localization and the ability to utilize traffic on either side.

III. Advanced Map Reading

Purpose: To enable the student to utilize tactual and/or print maps of familiar and unfamiliar areas to aid in independent travel.

A. Basic Method - Procedure

1. Introduce the student to the actual maps used for training in the residential, commercial, and Macon Mall areas. Allow the student to become familiar with each map and let them discuss the similarities and/or differences concerning the construction and lay out of the maps.

2. After the student has become familiar with each map and has read some of the information concerning the map area, then give the student on locating specific objectives on the map. Next take the student to the actual area and let them see the objectives in person so as to compare and associate the map to the real environment.

B. General Observations

1. Have the student become familiar with each map, but do not study them for detail. That will come later when they are training in those areas.

2. Use easily identifiable landmarks when asking the student to locate objectives on the map and in the actual area.

3. While traveling in the actual area, make references to the map by identifying streets, compass directions, etc., that were seen and discussed while looking at the map.

4. If the student has trouble making associations between the large map and the area, then take a hand held map along to assist in identifying a relationship between the map and the area.

IV. Individual Student Check Sheet

Instructor ______________ Student ______________

School Year ______________ Grade Level ______________

OUTDOOR ORIENTATION SKILLS

SKILLS	Quarter Completed 1st Fall	 2nd Winter	 3rd Spring	COMMENTS
Landmarks				
Clues				
Measurement				
Turns (45 degrees, 90 degrees 180 degrees)				
Compass Directions				
Outdoor Numbering Systems				
	SPECIAL SKILLS			
Soliciting Aid				
Multi-patterned street crossings				
Advanced Map reading				

CHAPTER TWELVE

RESIDENTIAL TRAVEL

RESIDENTIAL TRAVEL

Introduction

Traveling independently in the residential area can be the most functional skills a student learns. Being able to live independently and make relevant purchases are skills required to being a contributor in the economy. Dealing with day to day situations are the products of living independently.

I. Introduction to Outdoor Travel

Purpose: To enable the student to refine and develop his basic skills in the initial outdoor environment.

A. Basic Skills - Procedure

1. Touch Technique Refinement - The instructor should critically analyze all the components of the touch technique, with special emphasis on the following:
    a. "Light touch reliance of tactual input from the cane rather than auditory output of the cane."
    b. Consistent arc width and height - minimizes the cane's contacting minor undulations in the sidewalk.
    c. Student reaction when the cane sticks in the grassline - the wrist, elbow and shoulder should be used to absorb the shock when the cane sticks.
2. Pace - The student should maintain a consistent and fluid pace to enhance his straight line of travel.
3. Straight line of travel - Along with a good pace, the ability to maintain a straight line of travel will minimize veering and recovery situations on the part of the student.
4. Basic orientation - Including conceptualization of block travel and layout of street and shoreline patterns.
5. Ability to detect curbs - Clues to alert the student that he is approaching a curb are:
    a. slopes,
    b. distance awareness,
    c. pedestrian or vehicular traffic,
    d. "openness of sound" characteristic at many intersections,
    e. sun, and
    f. wind.
6. Recovery on the move - The student should attempt to keep a consistent pace when the cane tip contacts the grassline, simultaneously correcting toward the desired line of travel.

B. General Observations

1. The instructor should view the student from various angles and positions to analyze proper cane skills.

2. If the student is having difficulty detecting curbs the instructor should consider the following possible causes:

    a. the student may be overstepping his cane,

    b. the cane may not be the proper length,

    c. the student's pace may be too fast,

    d. poor distance awareness on the part of the student,

    e. faulty cane skills, or

    f. the student may have poor reaction time.

3. The time involved for this lesson may vary from student to student.

4. The instructor may wish to introduce basic recovery skills, further orientation concepts, travel around the block and touch technique modifications in subsequent lessons.

II. Familiarization to Residential Travel

Purpose: To enable the student to become familiar and at ease with the layout of the residential area, sound of traffic, and the residential setting atmosphere itself.

A. Basic Method - Procedure

1. Have the student walk throughout the residential area accompanied by the instructor. As the student is traveling, the instructor should describe the area to the student; pointing out travel hazards, compass directions, boundary streets, landmarks, and traffic patterns, etc. After the student feels comfortable with the type of area he/she will be traveling in, then other skills can be introduced.

III. Shorelining

Purpose: To enable the student to establish and maintain a desired line of travel and locate a specific object perpendicular to his line of travel.

A. Basic Method - Procedure

1. The student is positioned parallel and near the shoreline, facing the desired line of travel.

2. Slowing his pace, the student modifies the basic touch technique by utilizing a spring action with the arm and increasing the arc slightly on the side of the body closest to the shoreline; the cane tip alternately contacts the walking surface and the shoreline. This procedure is repeated until the intersecting objective is located.

B. General Observations

1. For beginning instruction, a straight sidewalk with a definite regular shoreline should be utilized.

2. The student should maintain light contact with the surface area being shorelined.

3. Shorelining should not be used over long distances.

4. Common faults of the student may be: a) overstepping the cane tip when it snags in the surface area being shorelined; b) failure to maintain the proper hand position, especially when the shoreline is on the same side as the grip hand; and c) failure to maintain a forward projection into the environment.

5. To reestablish a straight line of travel, the student positions one foot lengthwise halfway over the edge, with the foot on the same side as the hand holding the cane. Then he extends the cane forward to the edge of the shoreline, and mentally projects a straight line.

6. A common fault is for the student to drag his cane tip across the walking surface, therefore misinterpreting seams and cracks for the shoreline.

7. For locating narrow intersecting objectives, the student may further slow his pace and choke up on the cane.

8. Shorelining may be used in street crossing procedures, see Residential Street Crossings.

IV. Sidewalk Recovery

Purpose: To enable the student to relocate the desired sidewalk in a safe, efficient and systematic manner.

A. Basic Method - Procedure

1. The student, upon realizing that he has veered away from his intended sidewalk, should stop and remain cognizant of his intended line of direction.

2. The student checks both sides with the full length of his cane.

3. a) If the student locates the sidewalk when executing the above procedure, he makes the necessary correction to place himself on the sidewalk and continues in his desired direction.

   b) If the student does not locate the sidewalk through cane extension he determines the location of the parallel street through available clues and walks directly to the parallel street using shoreline if available.

4. a) If the student locates the desired sidewalk upon executing #3b, he resumes his intended line of direction;

   b) If the student does not locate the desired sidewalk when executing #3b, he then makes a 180 degree turn and walks shorelining (if shorelining is possible) away from street until desired sidewalk is located.

B. General Observations

1. This technique is often used when a student has drifted a parking lot or driveway. Congenitally blind students may not understand the nature of the relationship between a driveway, a sidewalk and a parking lot without proper instruction.

2. If the student contacts objects while walking towards the parallel street, he must remember to maintain his desired direction while circumventing the object.

3. Often a student will contact an object, such as a car or tree, in the middle of the sidewalk, and mistakenly think he has veered. By walking toward the street he can determine the nature of the situation, circumvent the object, return to the sidewalk and continue in his desired direction.

4. Traffic is the most important clue which a student may have in most recovery situations.

5. The student may utilize the upper hand and forearm in conjunction with proper cane skills, particularly when contacting vehicles, in negotiating construction areas and when walking across a grassy area.

6. The student should be aware of any directional changes he makes during the recovery situation.

7. If small obstacles block the student's line of travel the student should use the normal clearing process and proceed around the obstacle.

8. If student's path is entirely blocked by vehicles or construction, student should move toward the parallel street and trail around the vehicle to the opposite side, estimate the approximate distance where the contact was made, and resume normal travel. At construction areas the student may walk to the street, use the curb to shoreline until he has cleared the construction area, return to the sidewalk and resume normal travel.

9. The student should be aware that some cars blocking the pathway may be parked at an angle. This may cause difficulty for the student in realignment.

10. When the student encounters a vehicle with the engine running, he may motion the driver on. If the driver does not respond, the student should proceed around the front of the vehicle so that he remains visible to the driver at all times.

11. If the student seldom veers from the sidewalk, the instructor may select an environment that contains obstacles and situations which will provide the student with the opportunity to employ appropriate sidewalk recovery skills.

V. Touch - Slide

Purpose: To enable the student to detect textural changes, subtle drop-offs and blended areas perpendicular to his line of travel.

A. Basic Method - Procedure

1. The student slows his pace.

2. The student modifies the touch technique by reducing the arc width so that the cane tip alternately touches at a point in front of the instep of each foot.

3. The cane tip is slid from its initial contact point to its proper position one inch beyond the shoulder.

   This procedure is continued until the objective is reached.

B. General Observations

1. This procedure may be used with students who have difficulty in detecting drop-offs that ordinarily would be detected with the proper touch technique.
2. This procedure should not commence until the student feels he is in close proximity to the objective.
3. This technique may be utilized in recovery situations.
4. This technique may be introduced during the indoor training on stairways if the circumstances show that the student could benefit from this modification. It may also be used for locating a textural landmark, such as an expansion seam.
5. Environmental clues such as traffic or a downward slope, may indicate that the student is approaching a drop-off. The student may want to utilize these clues to know when to initiate touch and slide.
6. In blended curb situations, the student should check with his cane to either side for location of shoreline to verify his position relative to the street.

VI. Touch - Drag

Purpose: To enable the student to maintain a desired line of travel along curbs, expansion joints, elevated walkways and platforms.

A. Basic Method - Procedure

1. The student is aligned parallel to and near the object, line or drop-off being trailed, facing the desired line of travel.
2. Utilizing the basic touch technique with a slightly widened arc on the side to be trailed, the student slows his pace slightly.
3. The cane tip is dragged until it detects the parallel object, line or drop-off. It is then returned in a low flat arc to the opposite side one inch outside the shoulder. This procedure is continued until the desired objective is reached.

B. General Observations

1. This technique may be utilized for street crossing alignment and recovery, negotiating railroad tracks, locating landmarks near the curb (e.g. bus poles), and negotiating gas stations.

VII. Residential Street Crossings

Purpose: To enable the student to cross a residential street safely and efficiently.

A. Basic Method - Procedure

1. Upon detecting the curb the student stops and anchors the cane tip against the curb base.
2. The student maintains a straight line of travel while moving up to a point about two to six inches from the curb.
3. While standing at the curb the student clears the immediate area with the cane for his first step. The student then returns the cane hand to his body midline and positions the tip on or against the curb.
4. Consciously maintaining total body alignment (head, shoulders, and feet), the student mentally projects a straight line to the opposite curb.
5. Before crossing, the student listens for simultaneous traffic lull on perpendicular and parallel streets.
6. The student evenly distributes his weight onto the balls of both feet while leaning slightly forward.
7. Conscious of his intended direction, the student takes a substantial first step and begins crossing the street, simultaneously resuming the touch technique.
8. With a moderately accelerated pace, the student concentrates on maintaining a straight line of travel until he contacts the opposite curb.
9. When the cane contacts the curb, the student continues in a straight line while vertically positioning the cane against the curb vertex.
10. The student brings the cane onto the sidewalk, clearing the area of his next step, and continues into the touch technique.

B. General Observations

1. This technique should be taught in segments to assure that each step in the procedure is mastered before continuing.

2. The instructor should choose an environment which has good curbs, little traffic and no irregularities in the street when introducing this technique. The student should then be exposed to a variety of situations involving such irregularities as blended curbs, narrow streets, wide streets, streets with median strips, and streets with irregular surfaces.

3. In a familiar environment the student may utilize the curb for alignment if it is a square curb.

4. The instructor should position himself so that he can see the student and the entire intersection.

5. Initially the instructor should view this technique from various angles to check the following: hand positioning, relation of feet to curb, and total body alignment.

6. To reinforce retention of this technique, the instructor may use a work association activity called, "P.D.C.C." (P-position, various ways of establishing alignment, such as shoreline, straight line of travel, traffic, etc.; D-direction, student should be conscious of compass directions before crossing the street; C-clearing, the student clears the area below the curb with his cane and listens for the absence of traffic; C-cross, the student initiates the crossing at this time).

7. After the initial instruction on the mechanics of street crossing, the instructor may develop several practice drills involving clockwise and counter-clockwise street crossings. To facilitate this activity the instructor may play a game of "Intersection Baseball" with the student (e.g. student scores a run or obtains a hit when making a good crossing).

VIII. Three-Point Touch

Purpose: To enable the student to parallel vertical objects (i.e. curb) in order to locate a specific objective on a level higher than the walking surface.

A. Basic Method - Procedure

1. While standing in the street, the student positions himself parallel to and near the curb.

2. With a slowed pace the student modifies the basic touch technique as follows:

The cane tip touches the street one inch beyond the student's shoulder on the side opposite the curb. It is then brought back to contact the curb vertex, and is then brought over the curb to contact grass or concrete.

B. General Observations

1. This procedure is primarily used to locate the intersecting sidewalk in recovering from an incorrect street crossing.

2. This provides the student with a method of following the curb of a street when no sidewalk exists, and may be useful in locating and recognizing steps.

3. Initially it may be advisable for the student to practice technique in a stationary position.

4. This technique may be used on sidewalks having low retaining walls when the student is locating a specific objective along the wall.

5. In some instances due to heavy traffic, it is impossible to employ this procedure in the street, therefore the student should step up on the curb and trail the edge of the curb until locating the desired objective.

IX. Street Crossing Recovery

Purpose: To enable the student to locate the desired sidewalk in a safe, efficient and systematic manner following an incorrect street crossing.

A. Basic Method - Procedure

1. Upon failure to locate the sidewalk with the initial clearing procedure, the student checks both sides with the full length of the cane.

2. If the sidewalk is located through extension of the cane, the student negotiates the curb, corrects toward the sidewalk and upon reaching the sidewalk continues in his desired direction.

3. If the sidewalk is not located with extension of the cane, the student a) utilizes three-point touch to locate the sidewalk, or b) negotiates the grassline to the perpendicular sidewalk and, if necessary, locates the appropriate sidewalk.

4. Realizing he has veered into the parallel street, the student executes a turn of more than 90 degrees toward the appropriate sidewalk and accelerates his pace as he continues utilizing the touch technique.

5. If, upon curb contact, the sidewalk is not located with the clearing process, the student a) utilizes three-point touch to locate the sidewalk or b) negotiates the curb and grass to the perpendicular sidewalk and, if necessary, locates the appropriate sidewalk.

X. Route Travel

Purpose: To enable the instructor as well as the student to know how well the student can follow set verbal directions from a known starting point as a specific objective.

A. Basic Method - Procedure

1. Verbally describe a route requiring only one directional turn. Have student repeat the directions. Next, after student can repeat the directions and understands them, let the student follow through with the route. Once the student can successfully complete several of this type of route, have them complete route including two directional changes and then three or more as the student is able.

2. After student has successfully completed the basic method of route travel, then have student describe and travel his/her own route in getting from one known point to another. Also have student describe and travel various ways of getting from the same starting point to the same objective.

XI. Mini Drop-Offs

Purpose: To enable the student to describe his/her own route from an unknown starting point to a specific objective.

A. Basic Method - Procedure

1. Have student figure out where they are by using landmarks, compass directions, traffic patterns, etc. Instructor can initiate this process by asking the student key questions about the area. After the student has been able to state where they are, then ask them to travel to a specific objective using the fastest and safest route they know of. After the student has been able to successfully complete several of these types of drop-offs then they are ready for their final Independent Drop-Off.

XII. Drop - Offs

Purpose: To test (for the instructor's benefit) the student's ability to establish his orientation from a disoriented state using all Orientation and Mobility skills that have been taught.

To reinforce (for the student's benefit) that the Orientation and Mobility skills previously taught do, if properly applied, allow almost complete independence.

A. Prerequisites

1. Proficiency in all orientation and mobility skills up through residential travel.

2. The student must have a thorough understanding of the geographic area in which the drop-off will take place. This understanding should include: a) traffic directionality of each street. b) traffic intensity - this involves the labeling of each street with regard to the amount of traffic on each street, i.e., heavy, moderate, light. c) intersection analysis - this is a complete analysis of the combinations of all streets intersecting. This includes the intersection of two one-way streets, a one-way and a two-way street, and two two-way streets, and the traffic intensity for each situation. d) physical characteristics and general clues - this may help the student distinguish certain streets. Examples of this might include lack of sidewalks, parking meters, long or short blocks, presence or absence of traffic lights, or any other distinguishable physical landmarks.

XIII. Residential Map and Description of Area

A. Boundaries

1. Northern - Suwanee
2. Southern - Napier (do not cross)
3. Eastern - Pio Nono (do not cross)
4. Western - Crescent

B. Streets

1. Quiet
    a. Suwanee
    b. Cherokee

        c. Courtland
        d. Hillyer
        e. Crescent

    2. Busy
        a. Hillcrest
        b. Napier
        c. Pio Nono

C. Bus Stops

    1. Napier and Courtland
    2. Napier and Crescent Alley

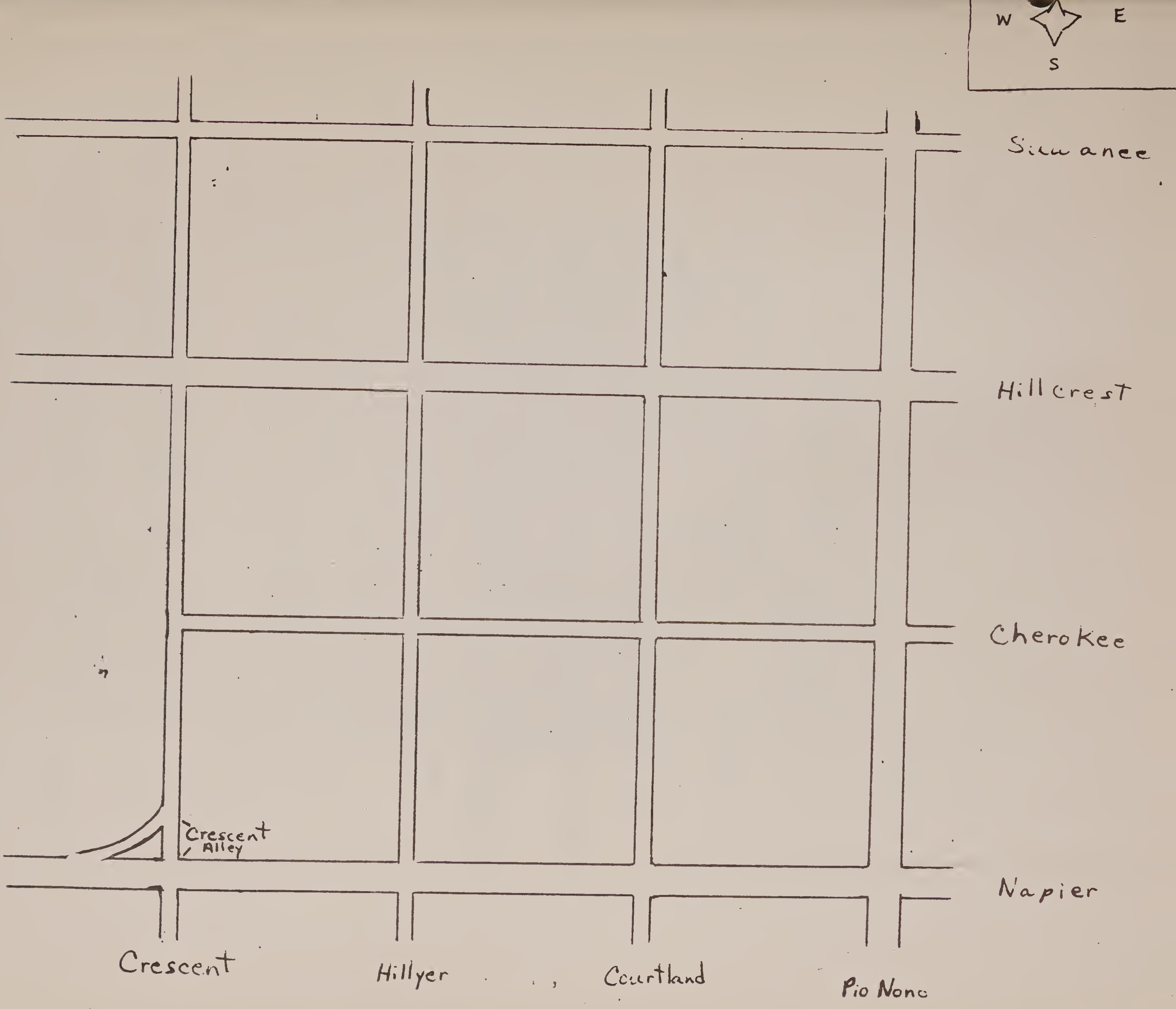
D. Landmarks and Stores

    1. Corner of Pio Nono and Suwanee - Lee's Minute Market
    2. Corner of Pio Nono and Hillcrest - Johnny V's and raised parking lot
    3. Corner of Pio Nono and Cherokee - Bridal Shop (Southside) with stone wall and tree in middle of sidewalk (Northside)
    4. Corner of Pio Nono and Napier - First National Bank
    5. Between Hillcrest and Cherokee on Eastside of Crescent -broken wall leaning over sidewalk
    6. Between Suwanee and Hillcrest on Eastside of Hillyer - no sidewalk for seven feet.

E. Traffic Lights

    1. Intersection of Pio Nono and Hillcrest
    2. Intersection of Pio Nono and Napier

Residential Area



XIX. Individual Student Check Sheet

Instructor ______________________ Student ______________

School Year __________________ Grade Level ______________

RESIDENTIAL TRAVEL

SKILL	Quarter Completed			COMMENTS
	1st Fall	2nd Winter	3rd Spring	
Introduction to Outdoor Travel				
Familiarization to Residential Area				
Shorelining				
Sidewalk Recovery				
Touch - Slide				
Touch - Drag				
Residential Street Crossings				
3-Point Touch				
Street Crossing Recovery				
Route Travel				
Mini Drop-Offs				
Drop-Off				
Residential Map				

CHAPTER THIRTEEN

COMMERCIAL TRAVEL

COMMERCIAL TRAVEL

Introduction

This section focuses on travel in a variety of business environments. Travel in this area uses Orientation Skills and Cane Skills. Ideally each student on completion of this area can travel independently, safely and efficiently. In this area some students that are route travelers can benefit from the experience of traveling in a commercial area.

I. Familiarization to Commercial Area

Purpose: To enable the student to become familiar and at ease with the layout of the commercial area, sound of traffic, sound of pedestrians, and commercial setting atmosphere itself.

Have the student walk throughout the commercial area accompanied by the instructor. As the student is traveling, the instructor should describe the area to the student, pointing out travel hazards, compass directions, boundary streets, landmarks, and traffic patterns, etc. After the student feels comfortable with the type of area he/she will be working in, then other skills can be introduced.

II. Street Crossings at Traffic Lights

Purpose: To enable the student to cross traffic light controlled intersection safely and efficiently.

A. Basic Method - Procedure

Upon detecting the curb the student stops and anchors the cane tip against the curb base. The student maintains a straight line of travel while moving up to a point about two to six inches from the curb. While standing at the curb, student with the cane clears the immediate area for the first step. Student then returns cane hand to body midline and positions the tip on or against the curb. While standing at the curb, student should be cognizant of parallel and perpendicular traffic.

1. Parallel traffic: should remain at a constant distance from student's projected straight line so that the line of traffic is parallel to the line projected from the student's midline.

2. Perpendicular traffic: should bisect student's projected straight line, forming an angle of 90 degrees. Consciously maintaining total body alignment (head, shoulders, feet), student mentally projects a straight line to the opposite curb at the desired location.

B. General Observations

The instructor should position self so that he/she is in close proximity to the student and has full view of the intersection in case a dangerous situation arises. Lighted street crossings should be taught after a student has gained proficiency in residential street crossings. The student should be aware of trucks, buses, etc., which may mask out vital traffic sounds or give the student misinformation about the light cycle. A common fault is that the student may initiate the crossing too late into the light cycle. In certain localities the student should be aware that the "right on red" law may be in effect. In certain situations the student may want to position self further away from the curb due to the closeness of traffic. If the student is unsure of alignment he/she may wait through a complete cycle before executing the crossing. The following teaching methods may be helpful for traffic interpretation and alignment: have the student verbally indicate when it is safe to start crossing, walk the student as Sighted Guide around the intersection having him/her indicate when to proceed, and have student alter alignment and then use traffic to realign self.

III. Pedestrian Traffic Control

Purpose: To acquaint student with the characteristics of these devices and to provide instruction so that students may use them with complete safety and proficiency.

A. Description and location

1. Push Buttons - May be large knobs or small recessed buttons which are usually located on the same pole as traffic control boxes between waist and shoulder height. These poles are usually located three - four feet from both the parallel and perpendicular streets. Push buttons may also be located on other types of poles.

2. Buzzers and Bells - Usually located on traffic control poles. They are either automatically timed or triggered by a push button.

3. Scatter Lights - Usually located in downtown area of large cities. Their purpose is to prohibit pedestrian congestion from interfering with turning cars.

4. Safety Islands - May be of any width, may be either barren or landscaped, and in many cities are utilized as bus stops. Safety islands are median strips which are usually located in the middle of the street. Many safety islands terminate at the inside of the pedestrian crosswalk.

B. Utilization

1. Push Buttons - The student may proceed to the perpendicular street, then execute a 90 degree turn, walking back about four feet to locate the pole; or may (through distance awareness, environmental clues, etc.) locate the pole and omit going all the way to the perpendicular street. Upon locating the pole, the student activates the button near the beginning of the perpendicular traffic cycle and repositions self appropriately for the street crossing. If the student presses the button at the inappropriate time, the tripping of the light may be negated.

2. Buzzers and Bells - Same as above if it must be manually activated. Student will either cross with parallel traffic or with traffic stopped on both streets.

3. Scatter Lights - Same as push buttons or may be automatic. Either way the student crosses the perpendicular street when traffic stops on both streets. There are three distinct cycles - parallel traffic, perpendicular traffic, and a pedestrian cycle.

4. Safety Islands - On safety islands that are recessed, the student should attempt to cross the entire street in one cycle without contacting the safety island. If he/she does contact the island, the degree of the veer will determine whether or not the student will step up onto it. In recovery, if he/she has veered greatly he/she should step onto the island, traverse the width of the island, realign self for the crossing, and cross with the next cycle. Clues which may aid the student in distinguishing between the safety island and the opposite side of the street are traffic and distance awareness.

C. General Observations

The student should not be instructed to veer so that he/she will contact the island, unless absolutely necessary. On extremely large streets with safety islands, it may be advisable for the student to cross half the street and complete crossing with the next cycle. The concept of a safety island may be difficult for a congenitally blind student to understand. In the pedestrian cycle of scatter lights, pedestrians may cross in any direction. It may be advisable to have the student execute an L-shaped crossing rather than a diagonal one, is he/she plans to cross both streets. The types of intersections with push buttons, and bells includes no parallel traffic, regular intersections with automatic walk signs, and intersections where the student must press the button to obtain a walk signal. It may be helpful for the student to face the perpendicular street when pushing the button to maintain orientation.

IV. Route Travel

Refer to Route Travel in Residential Travel.

V. Mini Drop-offs

Refer to Mini Drop-offs in Residential Travel.

VI. Drop-off

Refer to Drop-offs in Residential Travel.

VII. Commercial Map and Description of Area

A. Boundaries

1. Northern - Walnut
2. Southern - Poplar
3. Eastern - Broadway
4. Western - First

B. Streets

1. Two Lane Traffic
   a. First Street (between Cherry and Walnut)
   b. Cotton Avenue
   c. Cherry Street (between Second and Broadway)
2. Four-Lane Traffic (not divided)
   a. First Street (between Poplar and Cherry)
   b. Second Street
   c. Broadway
   d. Cherry Street (between First and Second)
   e. Walnut
3. Four Lane Traffic (divided)
   a. Poplar (parking in middle of divide)
   b. Third Street

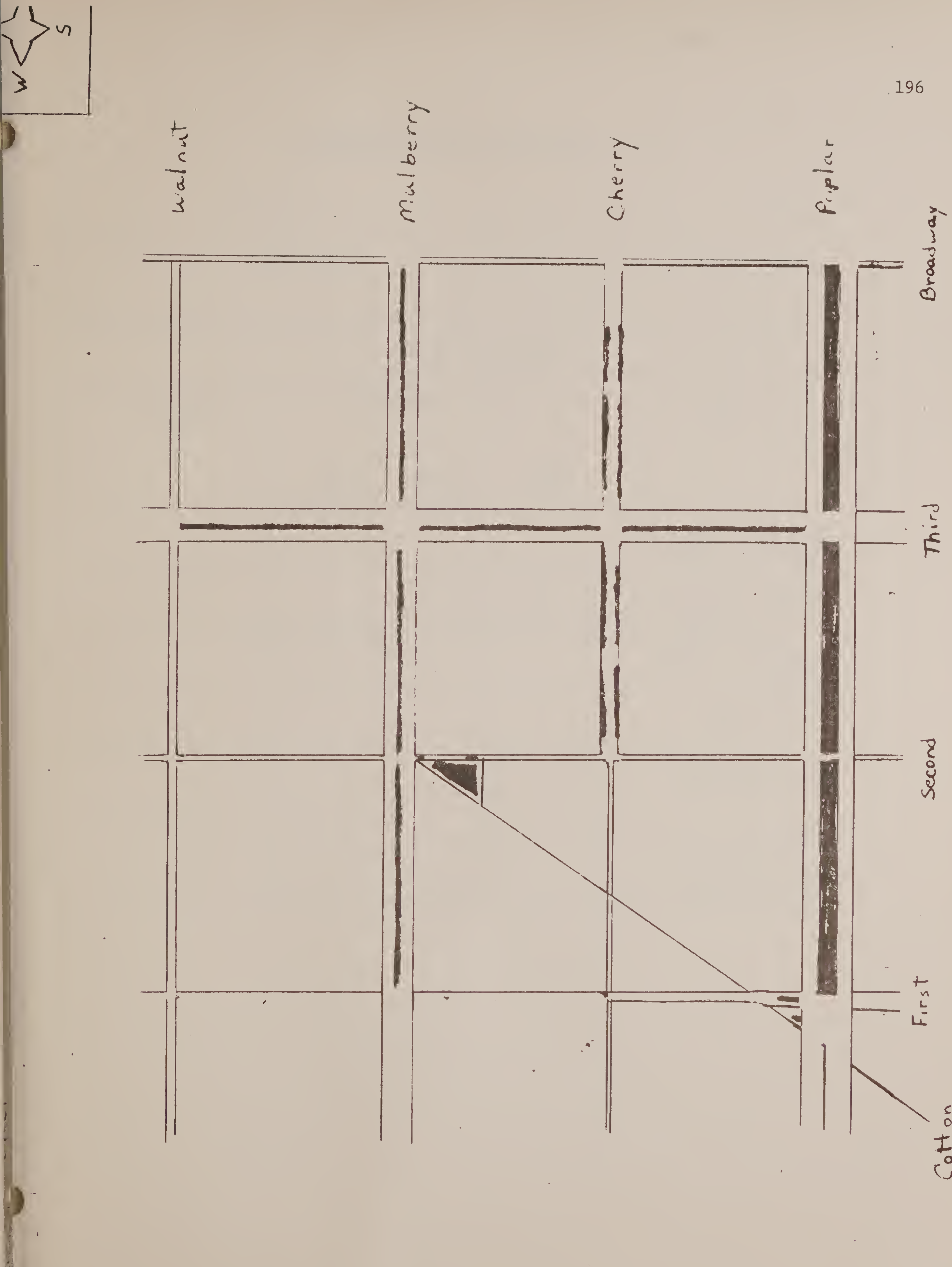
4. Six-Lane Traffic (divided)
    a. Mulberry (parking along side of divide)

C. Bus Stops (Macon Mall and/or Vineville)

1. Cotton and Poplar (by Central Bank)
2. First and Poplar (safety island for police parking in front of City Hall) - Macon Mall bus
3. Second and Cherry (in front of Roy G. Williams Drug Store)
4. Mulberry and Third
5. Mulberry and Broadway
6. Broadway and Cherry (covered area for waiting)
7. Broadway and Poplar
8. Poplar and Second (Tony's Pastry Shop)

D. Landmarks and/or Stores

For specific data concerning store names and locations and possible landmarks refer to large wall map of commercial area (posted in Orientation and Mobility office).


W
S
Walnut
Mulberry
Cherry
Poplar
Broadway
Third
Second
First
Cotton

VIII. Individual Student Checksheet

Instructor ______________________ Student ______________

School Year ______________________ Grade Level ______________

COMMERCIAL TRAVEL

SKILL	Quarter Completed			COMMENTS
	1st Fall	2nd Winter	3rd Spring	
Familiarization to Commercial Area				
Street Crossings at Traffic Lights				
Pedestrian Traffic Control				
Route Travel				
Mini Drop-Offs				
Drop-Off				
Commercial Map				

CHAPTER FOURTEEN

PRIMARY COMMUNITY FACILITIES AND SPECIAL AIDS

PRIMARY COMMUNITY FACILITIES AND SPECIAL AIDS

Introduction

There are many primary commercial facilities including travel facilities that can be encountered in every day life. There are also a variety of travel aids that can be used depending on the travel situation and the individual student. In this unit the student is taught how to utilize many of the primary commercial and travel facilities and how to select the most appropriate aid for his/her needs. The student is then given several opportunities to put all of his/her training to use by doing independent travel and shopping in various parts of the community.

Each student needs to be able to express a feeling of confidence and proficiency in the entire realm of daily living skills, ranging from money management to social awareness and use of travel facilities. Maintaining and demonstrating a level of proficiency in these skills facilitates public acceptance, promotes the student's feeling of worthiness, and in turn advances personal independence.

I. City Bus Travel

Purpose: To introduce the student to the basic components of bus travel, such as the characteristics and location of bus stops, as well as proper positioning at bus stops, fares, scheduling, bus characteristics and bus travel itself.

A. Characteristics

1. Bus stops are usually open areas which are unobstructed, paved to the curb, and long enough to accommodate two buses.

2. They may usually be identified by a bus bench or shelter, or poles at either end of the stop or in some cases only at one end. There is no standard position for benches or shelters and bus poles.

3. Another possible indication of a bus stop is the presence of many pedestrians, especially in commercial areas.

B. Location - Bus stops are usually located in one of these positions:

1. Near the corner of a block, before the intersection in the direction in which the bus is traveling.

2. After a bus has passed through an intersection it may stop at least one full bus length from the intersection.

3. Bus stops may be positioned in the middle of the block.

4. Sometimes bus stops are located on safety islands.

5. Occasionally the location of bus stops will vary due to route changes and/or environmental situations.

C. Positioning at the Bus Stop: Basic Method - Procedure

1. The student walks to the perpendicular street.

2. The student then turns and walks a short distance from the perpendicular street.

3. The student then turns toward the parallel street and proceeds to it.

4. The student trails the curbing of the parallel street to locate the bus pole.

5. The student then turns 180 degrees and trails a few feet from the bus pole.

D. General Observations

1. Within a commercial unit lesson, the instructor may ask the student to locate a bus stop as an objective. This prerequisite skill would aid the student when the bus travel unit is introduced.

2. At the beginning of the bus travel unit, the instructor may choose to run several lessons in which the student's objective would be just to locate and position himself at a stop. Once this has been mastered, full bus travel could be introduced.

3. If the student just misses the bus and realizes he may have a long wait, he may choose to find a seat on the bus bench and reposition himself a few minutes before the next bus is due to arrive.

E. General Information

1. Fare - Cities may utilize different systems by which fares are paid. The most common ones are:

    a. Make Change: In this system the driver will make change for the passenger if necessary.

    b. Exact Change: In some cities bus drivers will not carry money to make change, and passengers who do not have exact change will be denied passage.

    c. In many cities a token system is utilized, whereby a passenger must purchase tokens at banks or other commercial facilities. Tokens are deposited in a coin box when boarding.

    d. Passes: Passes are cards which are purchased on a weekly or monthly basis and are shown to the driver when boarding. There are several types of passes:

        1. Complete: These passes are good for any area in which a bus line travels.

        2. Restricted: These are complete passes within one zone but extra fare is required when crossing zonal divisions. This additional fare is usually paid when leaving the bus.

        3. Special passes: Many cities sell passes at a discount to students and senior citizens.

    e. Tickets: These are usually purchased in the same manner as tokens. They are usually handed to the driver, however, upon boarding.

f. Transfers: Transfers may be supplied to those passengers who need to take more than one bus to arrive at their destination. They are usually color-coded slips of paper which may be used only on the date of issue, within a specified time period. Transfers may not be used for return trips. The student should ask for the transfer when boarding and hand it to the driver of the next bus. In some cities transfers may cost extra money.

g. Fares: In some cities passengers are required to pay when leaving the bus. To indicate this, the driver will usually place his hand over the coin box during boarding.

2. Scheduling

   a. The student should have access to the address and phone number of the bus company so that he may obtain scheduling information.

   b. The student should know the following information concerning bus scheduling:

      1. The consistency of a bus's schedule: whether it changes during different periods of the day, especially during rush hours and at night.
      2. How the schedule may differ on weekends, nights, and holidays.
      3. The number or name of the bus on which he wishes to travel. Some buses are named according to major streets, a landmark along the route, shopping plazas, etc.
      4. Exact location for boarding and departure.
      5. Whether transfers are available if a second bus will be used.
      6. If the bus is an express or will stop along the route.
      7. Student should be aware that bus schedules and bus routes may change.

3. Bus Characteristics

   The student should be given several lessons in familiarization with different buses before actual bus travel. The instructor should contact the city bus barn to obtain use of a bus which is not in use for this purpose. The following characteristics should be explored:

a. Door Placement: On city buses the front door is usually located between the front wheel and front bumper, while the rear door is located on the same side in front of the rear wheels. On school buses the engine is in the front of the rear wheels. On school buses the engine is in the front, and consequently the front door is usually located behind the front wheels. There is usually no rear door on a school bus, although an emergency door may be positioned in the middle of the rear end.

b. Seating Arrangement: Most buses have long seats facing each other at the front of the bus, followed by several rows of seats facing the front divided by an aisle down the middle. A three-foot gap exists on the right side to allow for the rear door. At the rear there is another set of long seats facing one another followed by one seat across the full width of the back wall. On school buses and long distance buses generally all of the seats face the front of the bus.

c. Vertical and Parallel Bars: Vertical bars are positioned near the front and rear doors and behind the driver. Parallel bars usually run the full length of the bus, on the left side starting approximately two feet behind the driver and on the right side to the left of the front door as the student enters, with a break where the rear door is located.

d. Number of Steps: Most city buses have three steps while school buses usually have two.

e. Bell Cord: The cord runs parallel to the floor just above the windows along the inside of the bus. They may be reached by trailing up the window.

f. Operation of the Rear Door: To keep passengers from boarding the driver can control the operation of the rear door. On some buses a green light (located above the door) is turned on, indicating that a passenger may push the door open to leave. A totally blind student should apply continuous pressure with one hand to the door, which will open when the light is turned on. If the driver fails to activate this mechanism the student may pull the bell cord above and to his right to alert the driver to his needs.

g. Windows: On older buses windows open vertically, while on newer models windows usually slide horizontally. On air-conditioned buses it may be impossible to open the windows.

h. Handrails: These are usually located in the stairwells to aid in getting on and off the bus. They are usually positioned so that they are contacted when stepping onto the second step.

i. Coin Box: This is usually located on the student's right when boarding and can be located by trailing the handrail until it is contacted.

j. Additional characteristics of long distance buses include: overhead luggage racks, restrooms, and additional steps within the bus.

k. It may be necessary for the instructor to let the student explore the outside of the bus to gain an idea of dimensions and other distinctive features.

The instructor may utilize role-playing situations to make instruction interesting and motivating for the student.

F. Riding the Bus: Basic Method - Procedure

Properly positioned at the bus stop, the student determines the arrival and position of the bus from available auditory clues.

1. Bus travel should be introduced after the student has mastered positioning at the bus stop and is familiar with the basic characteristics of buses.
2. A good instructional technique is to have the student obtain the scheduling information by himself before a lesson on bus travel.
3. The instructor should sequence his lessons by first giving the student a simple short bus trip, and then longer, more involved trips which may involve obtaining a transfer or locating a bus stop at a shopping mall.
4. The student's major concern in bus travel is to achieve all of its components as swiftly and efficiently as possible.
5. The student should be aware of the orientational components when entering, seating, and exiting from the bus.

II. Commercial Bus Station Familiarization

Often a main source of transportation for a visually impaired individual is the commercial bus system. If the individual often rides Greyhound or Trailways Buses, a need to be oriented to the bus station is necessary. Orientation skills, such as a focal point (starting point), which is often the main entrance door and compass directions are utilized. Trailing and establishing functional landmarks in the station is required.

Within the station the ticket counter, bathroom, and loading area of buses are some of the relevant areas that a student would want to know their location and how to find them when alone. By being able to locate functional landmarks the student can feel comfortable in this environment. Each station is unique so the orientation and mobility instructor and student will need to establish relevant criterias for this area of training.

III. Taxi Cab Travel

On occasion using a taxi may be the best available source of public transportation. Normally a cab is dispatched from a central office. Therefore, the student is required to call and inform the office when and where the service of a cab is needed. Being aware of the cost for the ride will insure that there is no over charge.

IV. Macon Mall Familiarization

Entrance into Macon Mall for the visually handicapped student is best made in the door by Woodwork Shop and Farrell's Ice Cream Parlor. The mat just inside the door is the first landmark students need to learn and memorize. With the student's back to these doors, student is facing north. Have student locate the wall on the east side. Most students prefer the diagonal technique in the left hand with the right hand trailing the wall.

As the student is walking north, trailing on the east wall, the surface will vary often with each different shop. The student needs to make mental notes concerning which surface matches the name of the shop. The instructor will be walking with the student as he/she is learning the layout and telling the student the names of each shop. The student is not expected to remember each shop, but needs to remember the shop he/she feels the most interested. The surface will be landmarks to shops he/she wants to remember. At shop doorways the student will need to trail opening with feet. Usually a rail or texture difference will aide the student in traversing the doorways.

Every time the student changes campus direction it needs to be noted. The landmark at J.C. Penney's are obvious (two large pillars on each side of the doorway and large doorway opening); students need the explanation that this store covers both floors and is the east landmark. Also that it has its own elevator, escalator, and bathrooms. Davision's, Belks, Sears, and Penney's are the only stores that have these same characteristics.

After trailing the Penney's Plaza have student cross the hallway to J. Riggins and trail back to the doors by Farrell's. Make sure he/she trails this area until he/she can travel with only trailing to look for specific objective. Then the student should trail the short hallway to the fountains at the center of the Mall. Again cross the hallways and trail back to doorways by Farrell's. Redo this section until the student can again locate specific stores in the area.

The next section is the most difficult to learn and traverse because of the many direction changes. Isolate this area, and with practice it can be learned. If continuous difficulty arises, cut the area into smaller areas to learn. This same is true with entire Mall, if problems arise, make smaller sections to work on.

Belks is the north, Davision's is the south, Sears is the west, and Penney's is the east landmark. After learning the middle Davision's and Belks section, make sure connections are made with previously learned sections. The next sections are similar to the hallways already learned with crossing at Chess King to the other side and trail back to middle area.

The next area is the Sears Plaza and is similar to the Penney's Plaza except a hallway is on the north side instead of the south side. The fountains can be used as clues to each area. But on occasions, like Christmas, they are turned off and should not be depended on for sound clues but can be used as landmarks when contacted.

The upper section should be taught similar to bottom with bus stops noted. Farrell's is the first bus stop at the Mall.

In order to aid in instructing parts of the Mall, the instructor can also make a finger drawn diagram on the student's back. After the entire area has been learned, trailing should only be necessary to locate specific objectives.

Individualization of instruction will be needed when working with student, since pace depends on how quickly the student learns the area. Maps of the Mall are available and concrete tactual maps may aid in instruction.

V. Familiarization and Airport Travel

Purpose: To enable the student to become familiar with all aspects of air travel. His level of familiarity will depend upon the size and complexity of the airport, how often he will be using this facility, as well as his prior knowledge of the airport. Many of the general principles in using airport terminals are relevant to bus and train terminals.

A. Familiarization with the outside area

1. Some basic directional relationships concerning the front of the airport and its relationship to the street which runs in front of it should be established.
2. The relationship should be established between parking lots, both short and long term, and the front entrances of the airport.
3. The student should be acquainted with the following: length, width, and distance awareness of the sidewalk in front of the entrance; directionality of traffic; and any landmarks and clues which may enable the student to locate the entrance. Auditory clues which may alert the student to the entrance include echo detection, the sounds of the doors opening and closing, and the flow of pedestrians. At large airports self-familiarization may not be feasible, but the student should be aware of the general layout and size.
4. The position of the entrances should be established in relation to the area of the airport into which they will lead.
5. If arriving by cab, the student should specify which airline he is traveling on so that the cab driver may drop him off at the nearest entrance.

B. Familiarization with the ticket and lobby areas of the airport

1. The degree of self-familiarization will depend upon the size of the airport. The student should be aware of the following sections within the terminal: ticket check-in counter, information counter, baggage depository, seating areas, coffee shops, restrooms, direct phones, pay phones, security check area, and location of concourse area.
2. The student may want to know (especially in a small airport) the line of travel from the entrance to the ticket area. The student may establish landmarks to locate the ticket counter.
3. The student should know the baggage ticket system which is used to identify his luggage and should attempt to memorize this number before a flight to aid in its location.

4. The student should also be familiar with the checking-in procedure before his flight.
5. The student should be familiar with the security measures of the airport.

C. Familiarization with the concourse area

1. Concourses may be described as long hallways with gates located on either side. These gates are usually staggered with odd numbers on one side and even on the other.
2. In airports with more than one concourse, the concourses may be numbered or designated by a color. Consequently the student must know the concourse color or number as well as his gate number.
3. While waiting at a gate the student should have his ticket ready so that the attendant may check it prior to boarding.

D. Familiarization with the inside of the plane

1. The student should understand the nature of the seating arrangement, especially the difference between first class and tourist.
2. He should know the location of restrooms and the operation of the special door latch on these facilities.
3. He should be able to operate the tilting seat mechanism, food tray, seat belts, air vents and ash tray and become familiar with the smoking regulations. In addition, it may be helpful for the student to be aware of location of coat-racks, overhead racks or compartments, and emergency procedures.
4. The instructor should attempt to obtain the use of an out-of-service plane to aid in these proceedings.

E. Familiarization with other services which the airport may have to offer

1. Limousine service: The student may need to solicit aid to determine the location of these cars and basic information concerning scheduling and fares.
2. Paging Service: To aid in the location of other individuals.
3. Porter Service: At most airports porters are available at front entrances to assist passengers with their luggage. Porters (skycaps) may be an excellent source for the following information: ground transportation, sleeping and eating accommodations, and assistance to the plane.

4. Other airport services may include: life insurance, baggage claim service, gift shops, and lockers.

F. Planning and Scheduling

1. Reservations may be scheduled in advance by calling the airport, the airlines, or travel agency.
2. Information which will assist the student when making reservations includes: cost of ticket, round trip or one way, departure and arrival times, lay overs, intermediate stops, excursion rates, family and discount rates, stand-by first class or coach, and whether the flight includes a meal or snack; the distance he must travel in or to change planes; and if there is a shuttlebus available for this purpose.
3. The student should be aware that the ticket may be mailed to him rather than being purchased at the airport. Payment of ticket may be made by credit card, check, money order, etc. If the student is changing planes, he should be aware that his ticket will be checked again and that he will need to obtain a new boarding pass.
4. He should become familiar with types of flights where fares may be reduced, such as excursion flights and standby ticketing.

G. Miscellaneous Information

1. The student should feel free to solicit aid to help him find those objects with which he is unable to familiarize himself.
2. The student should solicit aid when arriving in an unfamiliar airport.
3. When boarding and leaving, an attendant may help the student on and off the plane.
4. Many daily living skills are incorporated in airport travel, and these should be stressed during lessons.
5. The size of the airport and the ability of the student will determine the degree that the instruction will aid in these proceedings.
6. It may be advisable to inform the student of take-off and landing procedures if he has never been on a plane.
7. The student should have identifiable labels on his baggage and should be aware of specific characteristics of his baggage.
8. The student should be aware that his baggage stubs are attached to his ticket folder.
9. Large airports may have separate buildings for different airlines.

10. The student should be aware of advanced planning for reservations to insure his desired flight, especially during holiday seasons.
11. It may be advisable for the student to use a folding cane for air travel.
12. A field trip to an airport may be an excellent activity for the development of concepts with children.

VI. Electronic Travel Aids Familiarization

There are several electronic aids that are currently on the market for visually impaired individuals. The main ones are as follows: the Russell Travel Pathsounder; the Bell-Tone Ultrasonic Aid; the T-4 Lazer Tiflo Cane; the Mowat Sensor; and the Kay Ultrasonic Spectacles (Sonic-guide). The main criteria for evaluation of these devices are if they are safe, dependable, efficient, and increase the independence of the blind person.

A. The Russell Travel Pathsounder is a supplement to a cane or a dog. It produces an ultrasonic sound, the device is worn around the neck supported by straps. The device is the size of two packs of cigarettes and is mounted at chest level. There are two small speakers and it gives an audible warning -- at 30 inches it beeps; and at six feet which is the maximum range, it ticks. The Pathsounder gives a warning of pedestrians, and it costs approximately $400.

B. The T-4 Lazer Cane looks like a regular Tiflo cane; it has three (3) lazer beams which are situated on the cane to protect the length of the blind person. One lazer is straight, one is down, and one is projecting up. The center beam is adjustable to 15 feet, the center beam provides tactual feedback by a vibrator on the hand grip of the cane which vibrates the first finger. The other two beams produce auditory signals; the high beam produces a high tone as warning; the low beam produces a low tone as warning of obstacles. Anything which interferes with the beam is picked up, the beams are able to pick up drop-offs but not a curb. The greatest advantage of this aid is that it gives protection at head level. The cost of this device is approximately $4,000.

C. The Bell-Tone of Kay Ultrasonic Aid, commonly referred to as the "torch", looks like a flashlight and is held in the hand. It is used in the sweeping motion as in a cane. The maximum range of this aid is seven feet and twenty feet (15 inches and 42 inches in diameter) it has two switches which are used for maximum and minimum range. It is run by a rechargeable battery and has earphones.

It emits an audible sound which changes in pitch from lower pitch if the object is close to a high pitch if the object is near. It is held at waist level and is moved slightly in a back and forth movement. The disadvantage of this device is that the object perception is blocked off by earphones. The cost of this device is approximately $400.

D. The Mowat Sensor is a newer version of the "torch" although they operate a little differently. The Mowat Sensor is designed to complement either the long cane or dog guide. It is also a good device to be used with low vision individuals as well as those with restricted fields or night blindness. It transmits a beam of high-frequency ultrasound into the area which the user wants to explore. Objects in or near the travel path are detected by the beam which is reflected back causing the sensor to vibrate silently. The rapidity of the vibration indicates the distance from the device to the object being detected. The more rapid the vibrator rate, the nearer the object. When there are no objects within its range no vibrations are felt. This device is easily held in one hand or can be put in a pocket or purse for storage during non-use. It is battery operated and if requested, an earphone will be included for individuals needing an audible signal. The user's kit costs approximately $495 and an instructor's kit about $800.

E. The Kay Spectacles or Sonic-Guide works on the same principle as the Kay Bell-Tone. These spectacles are made of a heavier frame than normal glasses, the transmitter and two receivers are located on the part of the frame which rests on the nose. Pramps are located on the part of the frames which rest on the ears and produce a stereo effect on the user. A cable is connected to a box which is worn around the waist which contains the batteries for this device. The maximum range is 30 feet and this device is used as a supplement to a dog or cane. The aid emits a constant tone, which sounds like the source comes from mid forehead, not the glasses, this is contributed to the stereo device. A thin plastic tube curves around the ears and feeds into the ear, but the tube does not touch the ear canal. This device does not effect object perception and at 20 feet it will pick up one and one-half foot poles. The field of radar in which the glasses pick up objects is cone-shaped, and picks up things in the vertical plan. The device works on the same principle as the Bell-Tone and a person must be trained with this device, according to the individual's hearing range. The box which is attached to the cables from the temple part of the glasses has amplifiers and runs on batteries. The box is three inches by two and one-half inches and is the size of two packs of cigarettes. There was noted one important study testing this device. In the first study there were poles arranged in a circle with the person in the center of the circle. It was proved that the glasses were effective due to the ability of the blind person to count each pole as he/she turned around in a 180 degree circle. The mobility instructor can plug another earphone or a transmitter and is able to hear the tones that the user hears.

The range of the cone-shaped field is 30 degrees and 60 degrees and the aid is important for head and chest level protection from obstacles. The Sonic-guide costs approximately $2,000 for a complete training aid set.

VII. Dog Guide Familiarization

General Information

A. Dog Guides for the Blind

The dog has for centuries been a companion and aid to the blind man. Through the ages, art and literature have placed the dog at the blind man's side. Yet it was not until 1923, in Germany, that any formalized system of training dog guides for blind persons was established.

During World War I, Germany had trained dogs to carry messages and to perform other specialized tasks. After the war, several far-sighted individuals began training dogs to assist the many blinded veterans as well as civilian blind. A training center for dog guides was started in Potsdam in 1923 under the direction of two trainers, Ruecker and Wecherling. Dorothy Eustis, an American who had trained dogs for the Swiss Army, was at that time experimenting with intelligence in dogs at her breeding station in Switzerland. A visit to the Potsdam center made Mrs. Eustis realize the potential of the dog as a guide for blind persons, and in 1929, she established the first dog guide school in the United States.

B. The Master

Not every blind person is a potential dog guide user. Many have neither the desire nor the qualities necessary for successful travel by this means. A number of factors are involved in selecting a candidate for future dog guide use. Motivation and need, as well as physical and emotional conditions must be taken into account.

C. Physical Condition

Dog guides walk at a speed of three to three and one half miles per hour. They must be aired, exercised, and used regularly in the capacity for which they were trained or their effectiveness as guides will be diminished. A person in poor physical condition, subject to long periods of confinement, will not be capable of keeping up with a dog's lively pace or meeting its daily needs.

D. Hearing

Dog guides are trained to respond to specific instructions such as "right", "left", and "forward." They will not initiate movement and cannot determine the route to be taken. A master must know where he is in order to give correct directions to his dog. Hearing then, is an essential factor, for without the ability to hear the sounds of such things as the motion and direction of traffic, it is almost impossible for a blind person to identify his exact location.

E. Vision

Too much vision can interfere with the master-dog relationship. A master with some degree of vision will not rely entirely on his dog when approaching obstacles in their path. Dog guides are trained to lead - not to be led!

F. Intelligence

In learning to use a dog guide, there are many adjustments to be made. There are new techniques and methods of travel to be learned and new routes to different distinations to be remembered. To deal with these particulars of training, a certain degree of intelligence is required.

G. Emotional Stability and Temperament

Dog guides are trained to react to a kind and reasonable master. The master must have the emotional stability necessary to maintain full control of his dog at all times and to cope with any difficult situations that might arise. People who fear or dislike dogs are, of course, not suited to use dog guides.

H. Age Factor

Most authorities agree that dog guide users should be between the ages of 16 and 55 (with a few exceptions based on the particular individual). It is generally held that a person under 16 years of age does not have the maturity or sense of responsibility needed and that a person over the age of 55 does not have the physical and emotional strength needed to handle a dog guide.

I. Motivation and Necessity

There is usually a direct correlation between desire to use a dog guide and satisfaction with the current mode of travel. A person satisfied with his travel performance will probably be little motivated to make a change. If, however, present travel conditions do not permit a better job, an increase of social activities, or the realization of any other of a person's goals, motivation should be high enough to warrant a change in travel aide.

Whether or not a person needs a dog guide depends a great deal on how extensively and frequently he travels and on how successful he has been with his present means of getting around. If his mobility is in any way restricted by his present mode of travel, a dog guide might very well be the solution.

No dog is ever intentionally given to a mendicant or a person with tendencies towards becoming a mendicant.

J. The Guide

Not all dog guides are German Shepherds. Dogs are chosen from a wide variety of breeds including Boxers, Golden and Labrador Retrievers, Collies, and other breads whose individual qualities make them responsible guides.

Some schools breed their own dogs while others buy dogs and accept suitable contributions. Dogs that are accepted for training from a private owner must be accompanied by a health certificate issued by a licensed veterinarian. A dog must be approximately 24 inches in height, of either sex, and between the ages of one and two years to be considered for training. It must be in excellent health, have a sound nervous system, and even temperament, and show a sense of responsibility. At the school, dogs are kept in sanitary kennels, fed well, and provided with regular veterinary care.

The average working life of a dog guide is ten years. When a dog guide dies, his master can return to the school from which he obtained his dog and if still eligible, receive another one. If the master dies before his dog, the dog either remains with the owner's family or returns to the school to be assigned to a new master. Some schools charge nothing for their dogs, others a token fee. No one, however, is ever turned away for lack of funds.

K. The Trainer and Training

Most dog guide schools require an apprenticeship of several years before a trainer is permitted to work on his own. A qualified instructor must study the habits and temperaments of both dogs and students to be able to understand and judge the needs of both. Aside from actually training dogs to become responsible guides, a trainer's most important job is successfully matching dog and master. Before the dogs are ready to meet their new masters they must undergo extensive training. They are first taught the basic commands of "sit," "stay," "left," "right," and "forward." They are taught to observe curbs, pedestrians, traffic, and low hanging objects. They must learn to adjust to and be able to cope with heavy traffic, crowded streets, and the presence of other animals. They must know how to deal with obstructions in the road, elevators, and revolving doors. Most of all, when training is done, they must be capable of what is often referred to as "intelligent disobedience." If, for instance, a "forward" command is given and the dog sees that a car undetected by the master is coming in their direction, he should be able to make the decision to disobey his master in order to insure their safety.

Until a dog and master are teamed, the dog is fed and cared for only by his trainer. Once the team becomes familiar, the new master takes over these duties. Dog and master are trained together on the school grounds and then sent off, at first on short excursions into a neighboring town, and then for a trial run in a more populated area. The entire process takes approximately four weeks. Once the team is secure and has passed all the necessary performance tests, dog and master are on their own.

Today dog guides are recognized everywhere as the serious working animals that they are and for the most part are accepted in restaurants, department stores, theatres and hotels, in places of business, in classrooms, and on public transportation. The dog guide, through diligent work, has become the symbol of freedom and independence to many blind people around the world.

VIII. Dog Guide Schools

A. The Seeing Eye - Qualifications for obtaining a Seeing Eye Dog

Since not all blind persons can use dog guides effectively, the following factors must be considered before an individual is accepted to receive training with one of the Seeing Eye Trained Dog Guides:

1. Physical and Mental Fitness

   Physically, this means general good health -- plus normal coordination, balance, and the capacity to take a reasonable amount of walking exercise. A medical report is required, and The Seeing Eye sends a form for this purpose directly to the applicant's physician.

Mentally, this means average capacity to absorb and apply instructions in care and use of the dog guide. Extent of formal schooling is irrelevant.

2. Degree of Vision

   The applicants who are accepted are totally blind or have light perception only. There are exceptions, however, and an individual may qualify who has slight form perception or a field of vision too restricted to be effective in travel.

3. Age Limitations

   The usual age limits are between 16 and 55 years. Applicants under 16 may be too immature to assume the responsibility essential to a good working partnership with a dog guide: moreover, if a young person is attending a school for the blind there is no practical need. Often, men and women over 55 find the physical activity required in learning to use a dog more than their doctors advise, particularly if such persons have been inactive for a long time. Each applicant, however, is judged on his own merits and some who are older than 55 are able to take the training. The exceptions usually prove to be persons who are newly blinded.

4. Character

   This is viewed in terms of the goals the applicant has set for himself or herself. In a sense, the very act of filing an application is evidence of the candidate's inner urge to live an active and constructive life. While employment at the time of applying is not essential, the applicant should have a plan for employment or should be engaged in other activities in which a dog guide would play a useful role. For example, housewives, mothers, college students and those participating in community activities or sharing in civic responsibilities have as great a need for a dog as those who are employed.

5. Desire for Independence (Financial Policy)

   Finally, each applicant is asked to demonstrate his capacity for personal independence and responsibility. He does this by agreeing to pay a small share of the cost of his dog, although in no instance is immediate payment required.

The blind person assumes an obligation of $150 for his first dog, and $50 for each subsequent replacement. In addition to the dog, its training and equipment, this amount covers the individual's training in the use and care of his dog, as well as his room and board for the period he is at the school (usually 28 days). Payment may be made over a period of years in amounts as small as one dollar. While it is not unusual for members of one's family to help, no other individual or organization may relieve the blind person of this responsibility.

A dog will not be placed with anyone whose sole support is from public assistance, unless the dog is needed to help the blind person realize employment or job-training plans.

B. Leader Dogs for the Blind - Qualifications for obtaining a Leader Dog

Instructions for completing application: Applicant completes first and last page - attaching photograph and listing six references. Medical doctor fills out second and third page, completely. Mail completed form to LEADER DOGS FOR THE BLIND, 1039 SOUTH ROCHESTER ROAD, ROCHESTER, MICHIGAN 48063. Classes are scheduled at least three months in advance - assignment cannot be made until receipt of completed application.

Assignment: Upon receipt of the completed application, tentative assignment is made and applicant is notified immediately. Admissions Committee evaluates the application and upon final acceptance, applicant is notified of definite assignment.

1. Travel to Leader Dog School

Travel plans and expenses are the responsibility of the applicant. As soon as the applicant knows his method of travel and arrival time, he should notify the school. An instructor will meet the applicant at the arrival point. No provisions are made for persons accompanying a student - students travel alone. Transportation is furnished from the time the student is met until he has completed the course of training and is taken to his point of departure. The applicant may be driven to the school which is approximately 25 miles north of Detroit on M-150; one mile south of Rochester.

2. Life at Leader Dog School

Classes always begin on Sunday and last for four weeks. Students live in a comfortable dormitory. An instructor and housemother are on duty at all times. Board and room, bed linens, towels, wash cloths, etc., are furnished by the Leader Dog School. Students may attend the church of their choice. Training is done outdoors several hours each day; therefore, clothing should be suitable for Michigan seasons. Life during training is most enjoyable in a homelike atmosphere.

3. Cost of Leader Dog to Applicant

   No charge - the student needs only pocket money for personal purchases.

4. Cost of Leader Dog to Leader Dog School

   Approximately $2,600 - Leader Dogs for the Blind is supported by Lions Clubs, various public supported agencies and individuals who recognize the value of the training program. Who is eligible for a Leader Dog? Any person who cannot see well enough to travel safely, but who is in good health, over 16 years of age, emotionally stable, of good moral character and physically able to walk several miles each day at a fairly brisk pace.

5. How will a Leader Dog Help?

   It will minimize the handicap of blindness - permit the individual to go where he wants to go - when he wants to go - without having to wait for a relative or friend. It will permit travel freedom - provide constant companionship - widen the scope for job opportunity. The person can concentrate on the development of his abilities. A Leader Dog protects against everyday travel hazards, and provides safety under trying conditions.

6. What does it cost to feed and care for a Leader Dog?

   The same as it would for an ordinary dog. A Leader Dog's diet is quite normal. Hundreds of Leader Dogs have been trained to lead the blind and in each case the individual has been restored to a normal place in the community.

C. Guide Dog Foundation for the Blind, Inc.

Qualifications for obtaining a Second Sight Guide Dog Applicant must be:

1. Either totally blind or have serious visual limitations;
2. in good physical and mental health;
3. over 16 years of age (there is no maximum age);
4. able to provide adequate housing and care for the dog;
5. of good character;
6. in need of the dog for constructive purposes (dogs are not given to mendicants);
7. apply to - 109-19 72nd Avenue, Forest Hills, New York 11375.

D. Guiding Eyes for the Blind, Inc.

Qualifications for obtaining a guide dog - Applicant must:

1. Be at least 16 years of age (there is no maximum age limit).
2. Fill out and submit a complete medical report by a physician or clinic.
3. Be in good mental health.
4. Pay a tuition fee of $150 (a replacement dog costs $50).
5. Apply to - Guiding Eyes for the Blind, Inc.
   Granite Springs Road
   Yorktown Heights, New York

IX. Individual Student Check Sheet

Instructor ____________________ Student ____________

School Year ____________________ Grade Level __________

PRIMARY COMMUNITY FACILITIES AND SPECIAL AIDS

SKILLS	Quarter Completed 1st Fall	2nd Winter	3rd Spring	COMMENTS
1. City Bus Travel				
2. Commercial Bus Station				
3. Familiarization				
4. Taxi-Cab Travel				
5. Macon Mall Familiarization				
6. Airport Familiarization				
7. Electronic Travel Aids Familiarization				
8. Dog Guide Familiarization				

APPENDIX

APPENDIX

I. Orientation and Mobility Terms

ARC - The pattern that the cane tip makes when touch technique is being used.

AUDITION - The process of relating to or experiencing through hearing.

AUDITORY - Related to or experienced through the sense of hearing.

BLOCK - An area, usually immediately bordered by four streets.
- The distance between two streets.

BODY IMAGE - A mental picture or conception of the physical parts of a person and their relationships to each other.

BOULEVARD - The area between a sidewalk and the parallel street.
- A broad, often landscaped thoroughfare.
- A landscaped area between the two sides of a street.

CLEARING - The process of confirming the safety of an area either with a sweep of the cane tip on the ground or with a sweep of the hand on the surface.

CLUE - Any sound, odor, temperature, tactile or visual stimulus that affects the senses and can readily be converted in determining one's position or a line of direction.

CONCEPT - An idea or general notion about something.
- Mental mapping of precepts.

CROSSING - The process of moving from one corner of an intersection to another, or from one side of an object to an opposite side.

CUE - Any sound, odor, temperature, tactile or visual stimulus affecting the senses which will elicit an immediate or automatic response.

DIRECTION - A series of points in one's environment according to a generalized rule along which one may move or be aimed to move along.

DIRECTION TAKING - The act of getting a line course from an object or sound to facilitate traveling in a straight line towards an objective.

DOMINANT CLUE - Of the many clues that are present, the one that best fulfills all the informational needs at that moment.

DROP OFF - An assigned trip in which the student is disoriented and then allowed to reorient himself and locate a designated objective.
- Any sharp decline.

ENVIRONMENTAL AWARENESS - Being alert to the clues and cues which may be found in an area or situation.
- The selective association of existing pertinent information.

FAMILIARIZATION - The process of learning the placement, arrangement, and relationship within an area.

FOCAL POINT - The origin of the numbering system (indoor or outdoor).
- Primary landmark the student uses for orientation or reorientation.

GAIT - A manner or rate of walking.

GRIDWORK - The patterning of streets.
- A system of definite, imaginary or projected lines which is used to section off an area for the purpose of patterning.

IMBALANCED ARC - The pattern created when the arc of the cane tip is wider on one side than on the other.

INTERSECTION - A place where two or more streets meet and/or cross.

INVERTED ARC - The pattern made when the tip of the cane makes contact with the ground at any point other than in front of the feet or at the end points.

IRREGULAR INTERSECTION - Any intersection which varies from a straight + crossing.

KINESTHETIC SENSE - Knowledge of the movement and position of the body.
- Sensory experience derived from human movement.

LANDMARK - Any familiar object, sound, odor, temperature or tactual clue that is easily recognized and that has a known location in the environment.

LINE OF DIRECTION - The course along which a person is aimed to move.

LINE OF TRAVEL - The course along which a person is moving.

MASKING SOUND - A blocking or distorting sound.

MOBILITY - The capacity, the readiness and the facility to move.
- The ability to move within one's environment.

MODIFIED HAND AND FOREARM - The positioning of the hand and forearm in a horizontal position in front of the body at about waist height, six to eight inches away from the body, with the palm forward, fingers extended, together and relaxed.

NAVIGATION - The art or practice of getting about.
- The act of evaluating known facts in order to facilitate effecient movement or mobility.

NUMBERING SYSTEMS - The way and patterning of streets and addresses within a city or area.

OBJECT PERCEPTION - The ability to perceive the location of objects by sound.

OLFACTORY - Relating to or experienced through the sense of smell.

ORIENTATION - The process of utilizing the remaining senses in establishing one's position and relationship to all other significant objects in one's environment.
- Collection and organization of information concerning the environment and one's relationship to it.

PARKWAY - An area between a sidewalk and the curb.
- A broad landscaped thoroughfare.

PARTIALLY SIGHTED - Having a visual acuity of 20/70 or less in the better eye after best possible correction, and being able to use residual vision as the principal channel of learning.

- A person who is at least able to count fingers.

POINT OF REFERENCE - A determined fixed point within an environment which is used in relation or connection with other points within the same environment.

PRE CANE SKILLS - Those skills or techniques which are taught prior to instruction of the use of the cane.

PUBLIC TRANSPORTATION - Any form of conveyance or travel which is accessible to all persons.

RECOVERY - The process of reorienting oneself to the desired position. The process of regaining proper orientation in the environment.

RUN - The term used to denote a course or route mapped out and followed to a given point or objective.

SAFETY ISLAND - An area (usually raised) within a roadway from which traffic is excluded.

SEARCH PATTERN - A systematic approach to locating or determining the position of an object or landmark.

SELECTIVITY - The ability to choose those techniques or clues which will facilitate the desired end.

SELF-FAMILIARIZATION - The ability to acquaint oneself with a new environment in a systematic fashion.

SENSORY TRAINING - Learning to utilize the remaining senses to the optimum.

SHORELINE - The border or edge of a sidewalk or grassline.

SOUND DIFFERENTIATION - The ability to distinquish between different useful sounds.

SOUND LOCALIZATION - To determine the exact bearing or line of direction of the source of a sound.

SQUARING OFF - The act of aligning and positioning one's body in relation to an object for the purpose of getting a line of direction, usually perpendicular to the object, and establishing a definite position in the environment.

TACTUAL - related to or experienced through the sense of touch.

TRAILING - The act of using the fingers to follow a surface for any or all of the following reasons: To determine one's position in space. To locate a specific objective. To get a parallel line of travel.

TREE LAWN AREA - The area between a sidewalk and the parallel street or curb.

UPPER HAND AND FOREARM - The positioning of the hand and forearm in a horizontal position in front of the body at shoulder height, with the palm forward, fingers extended, together and relaxed.

UPPER MODIFIED HAND AND FOREARM - The positioning of the hand and forearm in a vertical position in front of the face with the palm rotated forward, fingers extended, together and relaxed.

VEERING - A change in direction or course. Drifting away from the desired line of travel.

III. Off Campus Travel

After school hours and on weekends, many of the students like to travel off-campus. The following are rules and regulations concerning this off-campus travel:

A. Student must be from either cottages 5,6,7, or 8.

B. Students must travel in groups of two or more unless given permission to travel alone (at least one person in the group must be cleared to travel off campus).

C. All students will be instructed on how to safely travel off-campus; however, if they do not pass the evaluation, they will not be able to travel alone (they will have to travel with someone the houseparent feels will be responsible for them).

D. All students who have been taught how to use a cane must carry the cane off-campus with them at all times.

   1. If a low vision student has a folding cane he may carry it folded up but must at least have it with him in case he needs it. (It must be extended when traveling alone near busy traffic.)

   2. If a student is found not carrying the cane or using it properly, he will be duly punished by losing travel privileges for a designated period of time.

* Place this mark by each student who must carry a cane off-campus.

OFF CAMPUS TRAVEL CHART

Cottage #

Student	Krystal	Chi-Ches-Ters & Piggly Wiggly	Health Food Store	Burger King	Lighted Street Crossing	Fruit Stand & LaVista	Burger Chef		Bus Travel	Down-town Area	Macon Mall	W'gate & K-Mart	I.D. Cards

IV. White Cane Proclamation Day

WHITE CANE SAFETY DAY

BY THE GOVERNOR:

WHEREAS: The white cane, which every blind citizen of our State has the right to carry, demonstrates and symbolizes his ability to achieve a full and independent life, and his capacity to work productively in competitive employment; and

WHEREAS: The white cane, by allowing every blind person to move freely and safely from place to place, makes it possible for him fully to participate in and contribute to our society; and

WHEREAS: Every citizen should be aware that the law requires that motorists exercise appropriate caution when approaching a blind person carrying a white cane; and

WHEREAS: Georgia law also calls upon employers, both public and private, to be aware of and utilize the employment skills of our blind citizens by recognizing their worth as individuals and their productive capacities; and

WHEREAS: The State of Georgia, through its public agencies, and with the cooperative assistance of the National Federation of the Blind, can look forward to a continued expansion of employment opportunities for and greater acceptance of blind persons in the competitive labor market; now

THEREFORE: I, George Busbee, Governor of the State of Georgia, do hereby proclaim the day of October 15, 1978, as "WHITE CANE SAFETY DAY" in Georgia, and call upon all our citizens to recognize the white cane as an instrument of safety and self-help for blind pedestrians on our streets and highways.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the Executive Department to be affixed. This 22nd day of September, 1978.

SEAL

signed: George Busbee
GOVERNOR

BY THE GOVERNOR

signed: Norman L. Underwood
Secretary, Executive Department

V. S.O.M.A.

SOMA: Southeastern Orientation and Mobility Association

PURPOSE: The purpose of SOMA and its yearly conference is to keep orientation and mobility instructors up to date with new ideas and practices related to all types of orientation and mobility instruction and the changing role of the orientation and mobility instructor.

INFORMATION: For information concerning how to join SOMA and/or attend the conferences, contact one of the following:

Ms. Catherine Berner or
Mr. Peter D. Lindh

Georgia Academy for the Blind
2895 Vineville Avenue
Macon, Georgia 31204

VI. Vocational Orientation

As placement in a vocational setting is established, a need for orientation to this environment becomes necessary. Before placement is initiated the student is introduced to the unfamiliar area. Time allotted for familiarization is dependent on each student's own abilities. The transportation from the Academy to the employment setting and back to the Academy is included in the total instruction.

VII. Orientation and Mobility Awards

The following are awards presented by the Orientation and Mobility Department on an annual basis (the awards can either be ordered or made and usually vary each year).

On Guard	This award should be presented to the young student who uses his/her bumper at the proper times. (One award per ECE 1 and 2, ECE 3 & 4)
On Target	This award should be presented to the student who displays accurate cane skills under varying conditions throughout each day. (One award per grades 5-8, 9-12)
Stepping Out	This award should be presented to the student who displays safe, decisive street crossings and a moderate even walking pace in his/her daily travels. (One award per grades 5-8, 9-12)
O & M Graduation Award	After a student has successfully completed all cane travel skills, a graduation award is given to him/her. The award is a new long cane with scotch lite or a new folding cane. The type of cane awarded depends on the individuals preferred mode of travel. (The student turns in his/her old cane to be used with future students).

VIII. Non-Driver's Identification Card

Three times during the school year, the O & M Department will announce to the student body during an assembly program the requirements for obtaining a Non-Driver's I.D. card. If any students are eligible, one of the O & M instructors will take them in small groups of two or three students at a time to the Driver's License Division Office at Central City Park. (office not open on Mondays)

Age limit:	No age limit (it is usually issued to students 12 years and older).
Cost of I.D.:	$3.00
Supporting Documents:	Social Security Card. Valid Birth Certificate with stamp or seal of county in which born. A photostat copy of the original, but without the seal attached is not valid. (The name on the Social Security Card and Birth Certificate must be identical.)
Signature:	The student must sign own name either independently or with the aid of a signature signing card. If unable to sign own name, the student can use an "X" or "sign" to represent the signature for the I.D. and for all legal purposes henceforth.
Expiration Date on I.D.:	No expiration date (If the student's home address changes or name, then the I.D. should be renewed).
Photo:	A picture of the student will be taken to be used on the I.D.
Delivery Date:	Allow four to six weeks for delivery. It will be mailed to the address put on the I.D. card - preferably one's permanent home address.

REFERENCES

Barsch, R.H. *Achieving Perceptual-Motor Efficiency*. Seattle: Special Child Publications, 1967.

Blaha, L., et.al. *Basic Concepts of Blind Children as They Relate to Problems of Orientation and Mobility*. Long Cane Newsletter V.I. No. 2, 1965.

Boldt, W. *The Development of Scientific Thinking in Blind Children and Adolescents*. Education of the Visually Handicapped, March, 1969.

Brunner, J.S., et.al. *A Study of Thinking*. New York: J. Wiley and Sons, 1956.

Church, J. and Stone, J.L. *Childhood and Adolescence*. New York: Random House, 1966.

Cratty. B.J. and Sams, T.A. *The Body Image of Blind Children*. New York: American Foundation for the Blind, 1968.

Dallmann, M. *Teaching the Language Arts in Elementary School*. Iowa: William C. Brown, Company, 1966.

Dokecki, P.R. Verbalism and the Blind. *Exceptional Children*. April, 1966.

Drever, J. *Early Learning and the Perceptual of Space*. American Journal of Psychology, 1955.

Duran, P. and Tufenkjian, S. *The Measurement of Length by Congenital Blind Children and a Quasi Formal Approach for Spatial Concepts*. AFB, Research Bulletin, No. 22, December 1970.

Eisenberg, R.A. Concept Development in Preparation for Cane or Dog. *Long Cane Newsletter*, Vol. II, No. 4, April 1968.

Engel, Rose C., et al. *Language Development Experiences for Young Children*. Publication of Department of Exceptional Children, University of Southern California.

Englemann, S. *Conceptual Learning*. California: Dimensions Publishing Company, 1969.

Farina, E.M., et.al. Growth Through Play, New Jersey: Prentice Hall, 1959.

Fisher, S. and Cleveland, S.E. Body Image and Personality. New York: Dover Publications, 1968.

Flavell, J.H. The Developmental Psychology of Jean Piaget. Princeton, New Jersey: Van Norstrand, 1963.

Foulke, E. A Multi-Sensory Test of Conceptual Ability. The New Outlook for the Blind, March, 1964, 75.

Foulke, J.H. The Role of Experience in the Formation of Concepts. International Journal for Education of the Blind, October 1962.

Frailberg, S. An Educational Program for Blind Infants. Journal of Special Education, Vol. 3, No. 2, Summer 1969.

Garry, R.J. and Ascarelli, A. Teaching Topographical Orientation and Spatial Orientation to Congenitally Blind Children. Journal of Education, December, 1960.

Gesell, A. et.al. Child Development. New York: Harper and Row, 1949. The First Five Years of Life, 1940. The Child From Five to Ten, 1964. Developmental Diagnosis: Normal and Abnormal Child Development. Hoeber, 1941.

Guldager, V. Body Image and the Severely Handicapped Child. Watertown, Massachusetts: Perkins School Publication, No. 27, 1970.

Hapemann, L.B. Develop. Concepts of Blind Children Between 3-6. International Journal for Education of the Blind, December 1967.

Harley, R.K.Jr., Ph.D. Verbalism Among Blind Children. AFB Research Serial No. 10.

Hoffman, M.L. and Hoffman, L.W. Child Developmental Research. New York: Russell Sage Foundation, 1964. Chapter entitled "The Attainment of Concepts" includes an excellent listing of references.

Hunt, E.B. Concept Learning. New York: J. Wiley and Sons, 1092.

Hunter, W.F. The Role of Space Perception in the Education of the Congenitally Blind. May 1962.

Hurlock, E.B., Ph.D. Developmental Psychology. McGraw-Hill.

Inhelder, B. and Piaget J. The Growth of Logical Thinking From Childhood to Adolescence. New York: Basic Books, 1958.

James, W.R.K. The Tactile and Perception and Concept Forming of Blind Children. Teacher of the Blind. October, 1964.

Kephart, N.C. The Slow Learner in the Classroom. Ohio: Charles E. Merrill, 1971. 2nd Edition.

Klaumeier, H.J. Learning and Human Abilities. New York: Harper Brothers, 1961. Chapters 6 and 7.

Laurendeau, M. and Pinard, A. The Development of the Concept of Space in the Child. New York: International Union Press, 1970.

Michigan School for the Blind. Pre Cane Mobility and Orientation Skills for the Blind.

Neuman, F.T. Demonstrating the Relationship Between 3-D Figures and their 2-D Representations to Blind Students of Math.

Nolan, C.Y. Variability Among Young Blind Children in Object Recognition. International Journal for Education of the Blind, October 1960.

Nolan, C.Y. Development of Geographical Concepts in Children. Education of the Visually Handicapped. March 1970.

O'Donnell, P.A. Motor and Haptic Learning. California: Dimensions Publishing Company, 1969.

Piaget, J. and Inhelder, B. The Child's Concept of Space. New York: W.M. Norton, 1967.

Rubin, E.J. Abstract Functioning in the Blind. AFB Research Series No. 11.

Siegel, I.M. and Murphy, T. Postural Determinants in the Blind. Final Report, August 1970. Department of Family and Children Services, Chicago, Illinois.

Travers, R.M. Essentials of Learning. New York: MacMillan Company, 1963.

Vigoroso, H.R. Concept Development Thinking Out Loud. Long Cane Newsletter, Vol. III, No. 1 June 1969.

Wapner, S. and Wener, H. The Body Percept. New York: Random House, 1965.

Werner, H. Comparative Psychology of Mental Development. New York: Science Edition, Inc., Chapter III, Vol. IX.

Wheeler, J.G. Teaching the Concept of the Diagonal During Handwriting Lessons for the Congenitally Blind. New Outlook, October 1970.

Woodworth, R.S. and Scholosberg, H. Experimental Psychology. New York: H. Holt and Company, 1956.

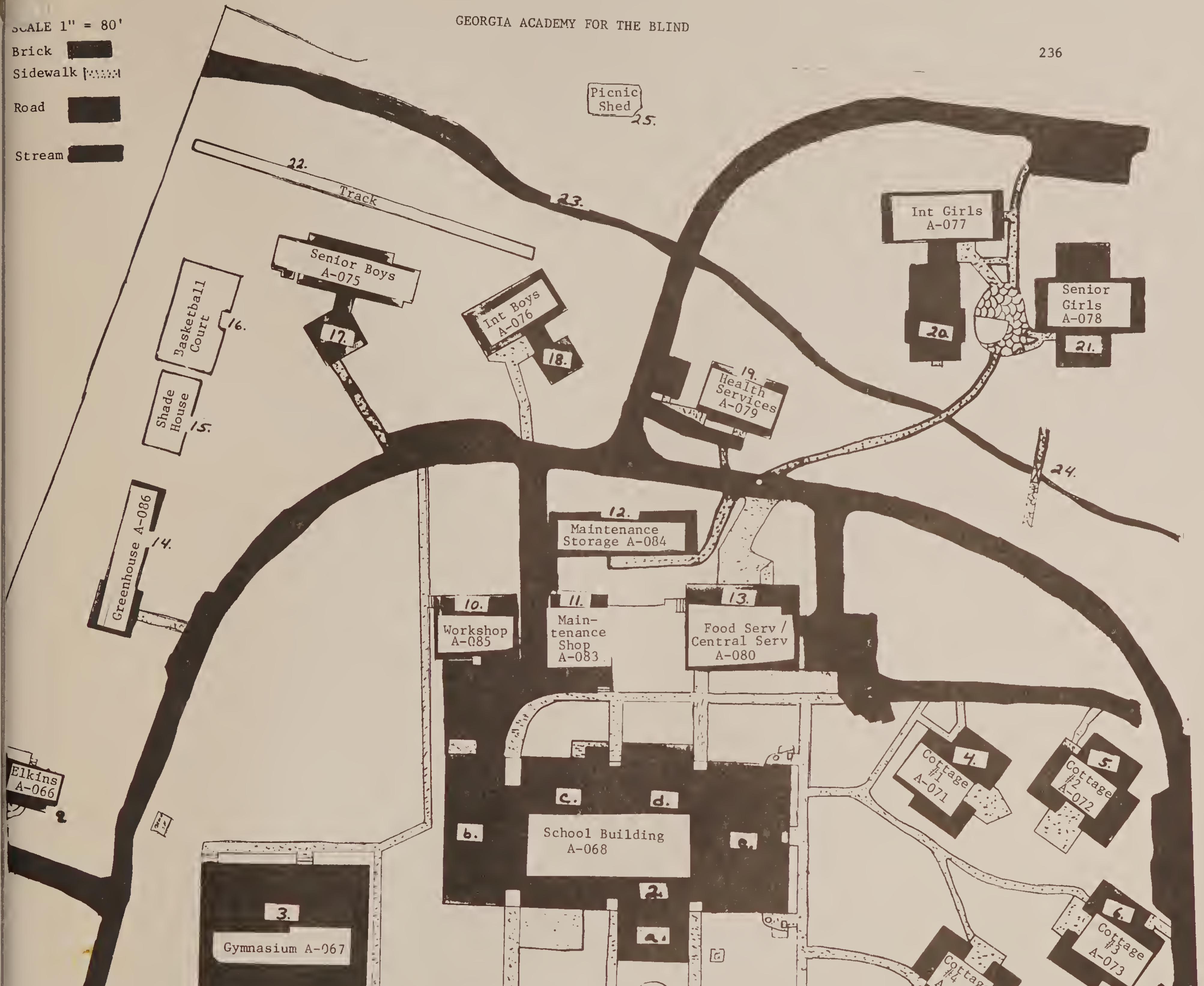
Zweibaison, I. Concept Development of Blind Children. New Outlook, December 1967.

Note: See Lesson Plans Sources, Parent Teacher Guides and Selected Sources ... for additional references.

II. Vineville Campus

1. Administration Building
   - a. Music Department and Piano Tuning
   - b. Auditorium
   - c. Education Director's Office
Business Office
Secretaries
2. Main School Building
   - a. Offices and Secretaries
   - b. Vocational Training and Industrial Arts
   - c. High School Classrooms
   - d. Library
   - e. Early Childhood and Middle Grades Classrooms
3. Gymnasium
4. Cottage #1
5. Cottage #2
6. Cottage #3
7. Cottage #4
8. Education Director's Residence
9. Maintenance Supervisor's Residence
10. Student Workshop and Caning Shop
11. Maintenance Shop
12. Maintenance Storage
13. Food Services Building
14. Greenhouse
15. Shadehouse
16. Basketball Court
17. Senior Boys Cottage #5
18. Intermediate Boys Cottage #6
19. Health Services Building
20. Intermediate Girls Cottage #7
21. Senior Girls Cottage #8
22. Track
23. Stream
24. Bridge
25. Picnic Shed

GEORGIA ACADEMY FOR THE BLIND



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